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ORIGINAL ARTICLES.

COMPARATIVE INDICATIONS FOR CLASSIC AND PORRO-CÆSAREAN SECTION.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

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The terrible mortality following Cæsarean section for all these centuries induced the Italian obstetrician, Porro, to advocate, in cases requiring Cæsarean section, the removal of the uterus at the same time; and the two main objects he had in view were; 1. That by removing the uterus and appendages the danger from puerperal septicemia would be removed; 2. If the woman did recover, she would not be again subject to such a serious operation.

Many coincided with these views, but there were also many who opposed them, saying that the danger of the operation itself was greater than the danger from puerperal fever, and that the woman who had a deformed pelvis and required such an operation, had no business to become pregnant. This latter argument seems to me very shallow, indeed. It might hold good in cases of illegitimate pregnancy, as is so often the case in Europe, but that argument certainly does not hold good for married women, where it is utterly impossible for a woman to prevent a recurrence of pregnancy. Hence, the question is still undecided, whether, in cases requiring abdominal section, it is better to do a Porro or a classic Cæsarean section.

With the advent of antiseptic and aseptic surgery, a new bright light shone on abdominal sections, and those advocating the preservation of the generative organs had a very strong argument on their side, *i.e.*, that the danger was comparatively small, and statistics were brought forth by eminent operators showing the mortality to be 10 per cent. and even less, and they argued that the hope of future maternity should not be taken from a woman, especially if the child was dead, and that furthermore, the liability of the child dying was considerable.

From my own experience and from what I have read and heard about it, it seems to me that both operations are indicated, that each case must be judged by itself, and that no absolute rule can be laid down. A few years ago, I performed a Porro-Cæsarean section in the case of a woman, in her first pregnancy, who had a large tumor back of the rectum, which I found to be hard and fixed and not removable. It might be an exotosis or an osteosarcoma, it might be acquired, or it might be congenital; I could not tell. It filled the hollow of the sacrum entirely and diminished the anterior posterior diameter to six centimeters. If this woman should again become pregnant, she would again be subject to a serious operation, and as the child was living, I thought the proper operation would be a Porro-Cæsarean section, which I did by the extraperitoneal clamp method. The woman made a splendid recovery, is today, five years afterward, the picture of health, and her child is also living, which shows that the growth, whatever it was, was benign, and I think at this date, as I did at the time, that I did the proper operation.

My next case was a woman in her second pregnancy. I had delivered her the year previously, in consultation, by means of craniotomy, Tarnier's forceps and the cranioclast with great difficulty, and at the time I warned her that if she became pregnant again labor must be produced at the seventh month, or perhaps even an abortion be performed. She had a universally contracted pelvis, with an anterior posterior diameter of seven centimeters. Neither her family physician nor I heard of her until she was in labor, and she stated that she was anxious to have a child, and as a seven month's child did not generally live, she was perfectly willing to undergo a Cæsarean section. I immediately transported her to the hospital and operated upon her, also doing a Porro for the same reasons as in the first case. She made a splendid recovery, and with her child, is still living. The operation was performed over four years ago.

After that, I did not see another case until February 18 of this year, when I was called by the house physician to see Mrs. L., aged 26, second child, who had entered the Open-Door Department of the Woman's Hospital. The patient had been taken in labor about twelve hours previously, with very strong labor pains. The doctor found a tumor, partly filling the pelvis, which she thought might be moved and shoved out of the way. On examination I found a tumor filling the hollow of the sacrum. It was hard and firm, and with the patient under chloroform and placed in various positions, knee-elbow, etc., it was impossible to move it. It was firmly fixed, and hard bony structures could be felt in the tumor. I diagnosed a dermoid, but saw that it was utterly impossible to deliver her as the anterior posterior diameter was diminished to less than five centimeters. The os was well dilated, and the bag of water ruptured. I had her immediately prepared and performed a Cæsarean section, and stated that I would decide after having the child delivered whether I would do a Porro or a classic section. The operation was quickly performed, and after the child and secundines were removed, I examined the tumor and sound it springing from the left ovary, and adherent in the cul-de sac, rectum, etc. With some difficulty I broke up adhesions and removed it, and finding the pelvis large and roomy, and with no obstruction to future labor, I decided to simply sew up the incision in the uterus and

preserve the other generative organs. The incision was sewed with fine sterilized catgut, with deep and superficial sutures, in the usual manner, and the abdominal incision closed with *en masse* silkworm gut sutures. The woman rallied well from the operation and got along very well for five days, the temperature net exceeding 101 degrees, lochia normal and perfectly clean. She had carbolized douches every day, her bowels were moved on the third day, but there was one suspicious symptom; that was a rapid pulse, from 120 to 130. Still, the patient felt perfectly well until the evening of the fifth day, when she suddenly collapsed and died of heart failure. On account of the rapid pulse I was a little suspicious and examined the woman carefully on the fourth day, with a Sims' retractor, and found issuing from the uterus a sanguinary, purulent, bad-smelling discharge. There was no doubt to my mind that she was suffering from sepsis. I carefully cleaned the uterus with absorbent cotton and swabbed it out with carbolic acid, but it was of no avail. On postmortem examination the uterus was removed, the abdominal cavity was perfectly normal and the incision in the uterus was closed strongly and firmly. Inside of the uterus, in the line of the incision, there was an ulcerative process going on. Dr. Sargent kindly made a careful bacteriologic examination, but only found the staphylococcus pyogenes aureus. This clearly shows that the operation had nothing to do with the result, but the infection came from the vagina, and as she had been examined by all the house physicians and a number of students, as well as myself, there must have been a break somewhere in the aseptic care. If I had performed a Porro in this case, I have no doubt that the woman would have recovered, and still, I would repeat the operation in the next case under the same circumstances.

These operations were all performed in a hospital, which is an entirely different thing to operating in a private house with poor facilities and poor assistance. That is another factor, and it seems to me that if we could lay down the general rule, that in cases where patients have a small pelvis, so that in future they might be subject to the same danger, the question should be placed before them and they should decide which operation they will have. In other cases, where patients must be operated upon at their own homes, with poor facilities the Porro operation is far safer—put on a clamp, or a heavy ligature, if nothing else is at hand, and sew up the abdominal wall, treating the stump extraperitoneally. However, in cases where the obstruction is due to a tumor, where any morbid condition which can be remedied at the time of the operation or later on, and where a woman would not be subject to such danger in future pregnancy, it seems to me that the uterus should be preserved, and if the child is dead it should certainly be preserved; yes, even if the child is living and future pregnancy can be ended at the seventh month without danger to the mother, the uterus should not be removed. I even think that the uterus should be preserved in cases where the women live in medical centers and can be removed to a properly equipped hospital if a future pregnancy should occur. In these cases, very often, the uterus becomes adherent to the anterior abdominal wall, and in future operations direct incision of the uterus can be made without opening the peritoneal cavity, and thus the danger of an operation is very much lessened. Whether it would not be best to attach the uterus to the anterior wall while we are performing operations, so as to be sure that it will become adherent and remain there, has occurred to me. It is simply anteriorly fixed and should cause no trouble.

I would suggest, as the result of my limited experience, the following general rules for cases requiring Cæsarean section:

1. Cases operated upon at private houses, with poor facilities and by inexperienced abdominal surgeons, should be subject to the Porro operation, using the extraperitoneal clamp method.

2. Cases of deformed pelvises, perhaps requiring a similar operation in the future, should be subject to the Porro operation, even if operated upon in a well-equipped hospital, unless the patient decides otherwise.

3. Cases requiring abdominal section on account of removable tumors, only, should be subject to classic Cæsarean section if the operation can be performed in a hospital, or in a private house where all proper facilities can be obtained.

4. Classic Cæsarean section should also be performed if the patient desires it, no matter what the future may bring forth.

DISCUSSION.

Dr. W. G. MACDONALD of Albany, N. Y.—I shall endeavor to speak of some points upon which Dr. Carstens has not dwelt, particularly in relation to the indications for the performance of either one of the operations, namely, the Porro or Cæsarean operation. It seems to me, at the present time, that nowhere in this country, with our present teaching of obstetrics, ought any woman be allowed to die undelivered, and yet we find in nearly every State of the Union that a considerable number of cases occur every year. The matter should be thoroughly discussed, and surgeons ought to have in mind some simple plan of operation which any general surgeon can do, for any man who is capable of doing a good aseptic amputation of the thigh ought to be able to perform a Porro operation. We hear very much yet about the extreme difficulties of doing this operation, and it is said that the man who undertakes a Cæsarean or Porro operation has to do the most serious operation in surgery. Now, any man who approaches the subject with the belief, firmly fixed in his mind, that he is undertaking a most serious surgical procedure when he undertakes a Porro operation, had better not do it, because he will not do it well. Within the last two years there has been published a text-book on obstetrics which, in relation to the question of craniotomy on the living child, takes the ground that among the poor, who are compelled to go into maternity hospitals, all of these cases should be treated by the improved Cæsarean or Porro operation; that in the case of people of wealth the matter should be explained to the family and those having all responsibilty, and the dangers of the procedure should be told them and allow them to debate among themselves and select the procedure to be carried out. It is a peculiar system of ethics which among one class in the community demands the improved Cæsarean operation, and another class of the community which demands craniotomy. I prefer no such relations, and rather than sacrifice the living child somebody else is welcome to the case. Rather than do a craniotomy, I would give the other man all the comfort he gets out of it.

We have not used pelvimetry as frequently as we should. The operation of symphysiotomy is now in competition with these operations. But there is something to be thought of concerning the relation of a symphysiotomy and a Porro. Dr. Lusk says regarding symphysiotomy, that the most dangerous man is the one who believes the operation of symphysiotomy is an easy one; that it requires no great amount of skill to perform it, and that it has a very wide application. He takes it, that it requires some considerable skill to do the operation in the first place, and that the after-treatment requires considerable attention, and, for the most part, its uses are only in cases of pelvic deformity. The indications we might form for the performance of obstetric delivery by an abdominal section can be variously classified: such as deformities of the pelvis, exostoses, tumors springing from the pelvis, and cancer of the cervix.

In looking over the literature I find a considerable number of cases in which Porros have been done, or complete extirpation has been done, in cases of carcinoma of the lower segment

of the uterus. Fibroid tumors of the lower segment do not require very frequently an abdominal section. An incision through the lower segment of the uterus from the cervix, with enucleation of the tumor, allows the surgeon to bring about delivery without serious discomfort. In one case, by making an incision over the cervix and by enucleation I was able to separate a tumor nearly as large as a child's head, then put an obstetric forceps on the tumor, extracted it, and afterward labor went on without interruption. Simple antiseptic douches were given.

In going back to the comparative mortality between Cæsarean section and craniotomy, even the best statistics for Cæsarean section and the Porro operation in this country show a relatively high mortality. On the other hand, the statistics from a number of maternity hospitals show a low mortality in the few cases where craniotomy has been done. But there are a large number of cases of craniotomy done in smaller cities and private practice which turn out very badly. In my own neighborhood, within a period of two years some twelve, or fifteen women have died after delivery by craniotomy performed by a number of physicians. The only point I want to speak of is this, that in the management of the pedicle after a Porro, I believe the external method by the use of a Koeberle clamp is far better. In removing the pregnant uterus we have the open cellular tissue, which is very easily infected. It shortens the operation a great deal and we are much more certain to bring about a cure.

Dr. C. S. Bacon of Chicago—In two of the operations described I think there is a question about the justifiablity of the procedure. In one case there was a benign tumor in the pelvis and a Porro operation was done. If a classic Cæsarean had been made in that case the benign tumor might have been removed and the woman spared her uterus. In another case of contracted pelvis a Porro operation was done where there was a contraction of the antero-posterior diameter of seven centimeters. A contraction of seven centimeters does not prevent symphysiotomy, and the woman could have been delivered, in that case, of a living child, by symphysiotomy. In that case, the Porro operation was not indicated. I think these facts should be brought out before the paper is allowed to pass as receiving the sanction of all members of the Section.

THE DESTINY OF VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASE.

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It is not my expectation to present any strikingly new features in reference to the subject. I would offer, rather, a few conclusions gleaned from personal experience and from the current literature of today, with the hope that a liberal discussion will follow, the crystallization of which may result in good and lead to a clearer understanding of the conditions met with in malignant uterine disease, and the more rational surgical procedures indicated for the removal of the same.

So far as this occasion is concerned, it matters not whether we accept Cohnheim's theory that "the only cells capable of originating neoplasms are those sequestered during embryonic life," or with Williams believe that "neoplasms are of intrinsic origin, due to a modification of the formative process by abnormal forces generated within the body, rather than extrinsic, due to inflammation or to the intrusion of micro-organisms," or favor the more recent idea of the bacterial origin of all malignant growths. The question, yes, the *fact* confronts us, that of all organs none is more prone to take on malignant degenerative processes than the uterus. Exposed as it is to so much irritation and injury incident to menstruation and its mishaps in early girlhood, and those disturbing causes of mature womanhood and the marital relations and the traumatism resulting from childbirth and neglected repair, with constant irritating discharges setting up perverted cell action, it is not surprising that this nesting organ of all mankind, should so often be the point of election for malignant degeneration. The achievements of pelvic surgery by the vaginal route, with its *immediate* low mortality, has stimulated surgeons to extirpate the uterus for diverse conditions, without, I fear, a just regard to ultimate results.

Certainly in non-malignant conditions the removal by the vaginal route promises much in the way of completeness and lessened shock; for "benign tumors remain local, but the malignant types penetrate into the neighboring tissues and destroy them, and the tumor germs being carried off in the blood and lymph, give rise to metastatic or secondary neoplasms in all parts of the system." "Metastases have essentially the same structure as the primary tumors, and are found either in the vicinity of the latter, that is, in the region supplied by the lymph and blood which comes directly from the tumor, or in distant organs, after the tumor germs have passed through the heart." "It is characteristic of tumor metastases, especially those from really malignant tumors, to go on growing indefinitely. Normal tissue germs do not have this peculiarity" (Tillman).

"In men cancer is liable to develop in the skin, lips, mouth, and rectum. While in women, glandular carcinoma predominates, and those of the mamma and uterus are especially frequent" (Tillman).

Those of the skin and lips are less liable to secondary infection. Whereas the glandular variety are prone to secondary lymphatic infection. Senn says: "Glandular carcinoma is followed at an *early* stage by regional infection. The lymphatic glands nearest the organ affected in the direction of the lymph current are usually involved first, when step by step, successive glands are implicated, until the entire chain of glands has become infected. Secondary tumors are subject to the same degenerative changes as the primary. The glandular tissue is completely removed in the lymphatic glands by the substitution of tumor tissue." He further speaks of "a wide zone of infiltration, and says Virchow pointed this out several years ago, and Waldeyer described this as an inflammatory zone, because he found in the connective tissue numerous small cells. Infiltration consists of leucocytes and young epithelial cells which, like the leucocytes, wander by virtue of their ameboid movements into and along the connective tissue spaces. Carcinoma of the alveolar type may develop within the cervical canal, and destroy the neck of the uterus before it is discovered, or in cancer of the body of the uterus, the cervix may become constricted, causing retention of the secretions (hydrometra), or the body of the uterus may be well-nigh destroyed before the cervix is attacked." Lymphatic infection is found in the lumbar retroperitoneal and inguinal glands. "Occasionally there may be found an isolated nodule of cancer higher up than the apparent edge of the disease. Whether this is due to lymphatic infection or is multiple cancer formation is an undecided question" (Warren).

"Examination of the retroperitoneal lymphatic glands in suspected cases of carcinoma of the uterus should never be neglected. In the great majority of cases the surgeon has to deal with carcinoma after regional infection has set in and in cases where the disease has advanced too far for a successful radical operation" (Senn).

He also says: "The greatest progress in the treatment of carcinoma will have been made, when we are placed in possession of an *infallible* means of early diagnosis." This was said in treating of carcinoma in general. Difficulties multiply when we consider carcinoma of the uterus, and there are no means of overcoming the obstacles presented. The hidden location of the organ, the secretive and natural disinclination of women to communicate even to their nearest friends any suspicion entertained that "all is not well," are barriers which will require the education of many generations to remove. The average woman is so ignorant of her own organism, that she is incapable of differentiating between the normal and the abnormal. She begins early in womanhood to expect the "change of life." Allured by the dangerous and false teachings of the mother, who wisely and with knowing look, tell her that irregular flow is not uncommon, and that *her* doctor told her "forty years ago" not to be alarmed at this, or even an offensive discharge. She has kept her secret, in blissful ignorance of the progressive degeneration which has overtaken her. When at last, forced by failing strength and pallid cheek and anxious inquiry of friends to consult her physician, the discovery is made that the diseased process has destroyed the cervix, that the lymphatic pelvic glands have become infected, that the broad ligaments and peri-uterine tissues have been invaded, and little hope remains for relief, either by palliative treatment or the radical operation.

Despite statistics (which too often are deceptive) showing many apparently permanent cures, yet on high authority we are forced to the conclusion that most cases presented are inoperable, at least by the vaginal route.

With these discouraging conditions confronting us and bearing in mind the limited field of operation, the accepted infectiousness of cancer tissue, and the possibility of the "transference of living tumor cells during an operation," coupled with the impossibility of removing in many cases *all* of the diseased structure, we are forced to admit, in candor, that the removal of the uterus *per vaginam*, for malignant disease, is at least in the majority of cases, *as we see them*, a doubtful expedient.

Tillman says that "Billroth saw an isolated form in the cicatrix in the overlying abdominal wall after extirpation of a similar growth from the pylorus, which was not adherent," and claims that the prognosis of cancer is very unfavorable. Complete cures are rare, even when the carcinomata are extirpated very early in their course. As a rule one recurrence follows another until the patient succumbs to general carcinosis or exhaustion." Again: "Possibility of the total removal of a tumor depends upon its location and the kind of organ involved. In malignant tumors, especially carcinoma, the neighboring lymph glands should also be removed, even though they are not diseased."

The late lamented Samuel W. Gross long ago gave out this sound surgical opinion, based upon experience and pathologic research in reference to amputation of the mammary glands for malignant disease. He claimed as absolutely essential, that all axillary fat and glands should be removed.

In cancer of the uterus we have in a great degree a parallel condition to deal with, but the narrow vagina and the danger of invading other important organs and structures precludes the possibility of completely removing, by the vaginal route, all probable diseased tissue.

Eastman, in quoting Gross, says: "We must likewise go wide of the disease in hysterectomy, to give the patient every possible hope, that not only the cancer, but subjective glands in which the cancer might be lurking, be removed." This to my mind is an impossibility by the vaginal route.

Senn says: "From a prognostic standpoint, imperfect removal of the primary tumor by caustics or by use of the knife, must be regarded as a measure calculated to aggravate the local conditions and to shorten life." Therefore, when complete removal is not possible, the patient will be more comfortable and live longer if no radical operation is done. In view of the opinions of some of the leaders in medical thought, we are compelled to look further for other and better methods of procedure in dealing with malignant disease of the uterus.

It is probable that *any* plan of extirpation will be found inadequate in a large percentage of cases for the entire and permanent eradication of the disease. But *that* method which permits of the largest opportunity for inspection of the diseased uterus, adnexa and infected glands, and furnishes an opportunity for a more complete removal of all diseased structures, both primary and secondary, must ultimately become the operation of election.

The dexterity which has characterized American surgeons in abdominal section for the total removal of the uterus and appendages, leads to the *belief* and justifies the *prediction*, that in the near future vaginal hysterectomy for malignant disease will be restricted to those rare cases in which women present themselves in the inception of the disease and before secondary infection has taken place. It is the opinion of the writer, that the more radical operation known as the Clark method will supersede vaginal hysterectomy for malignant disease. By this method of abdominal total extirpation of the uterus and adnexa, with dissection of the posterior peritoneum, the ureters (which have been made prominent by the introduction of ureteral bougies), and all glands at the bifurcation of the iliac vessels are brought into view and removed whether infected or otherwise. We are thus enabled in this broader field to go beyond the inflammatory zone, and to reach diseased glands not approached by the vaginal route. The bladder, the ureters, rectum and all important structures are brought directly into the field of vision. Thus directed, the hand of the operator does its thorough work and the poor sufferer has had done for her the best that science and the art of surgery can offer.

The objection urged against this operation, that it is tedious, that too long exposure results, that prolonged anesthesia endangers the patient's life, will all be overcome by that "practice which makes perfect."

DISCUSSION.

Dr. J. E. JANVRIN of New York—My friend, Dr. Noble, told me something about the ground that was taken by Dr. Hall, and it was principally this, that the cases in which vaginal hysterectomy will prove successful are so limited and come to the surgeon so late that it is questionable whether this operation can be properly performed in more than a few cases; in other words, it is only justifiable in a certain number of cases. I have been considerably interested in this subject for the last fifteen years and have done quite a good many vaginal hysterectomies for cancer. I am perfectly well aware that the majority of cases of cancer affecting the cervix come to us too late for a radical operation; at the same time, the people at

large are becoming educated in this matter, and I find during the last six or seven years that women are coming to our hospitals and to us in private practice at an earlier stage of their disease than formerly, the disease in these cases simply affecting the cervix or the endometrium. During the last five or six years I have operated on a good many such cases. In the majority of cases in which I have operated in the early stage of the disease, there has been no general systemic infection, and I believe the success of vaginal hysterectomy for malignant disease depends entirely on this one point, that if we get hold of cases in which there is no systemic infection, in which the disease is absolutely confined to the cervix or the endometrium, or even to a limited portion of the vaginal mucous membrane alone, I believe from my own experience and the success which has attended my operations, that all such cases can be operated upon radically with the best of success. One-third of my cases are living now, at periods of three to fifteen years after the operation. If the disease has extended beyond the cervix, and much beyond the endometrium and into the peritoneal covering, these cases are not the subjects for vaginal hysterectomy, nor for any other radical operation; for I believe that if operated on, sooner or later the disease is sure to return.

Dr. JOSEPH EASTMAN of Indianapolis—I have only a few words to say in connection with the subject of vaginal hysterectomy. I do not believe the operation is destined to obscurity for several reasons. I might name twenty-five or forty reasons, did time permit. I might name women who are living from twelve years down who have had vaginal hysterectomy performed for cancer and are perfectly well today. In the cases in which I have performed vaginal hysterectomy, the prolongation of life, the relief from suffering, the relief from loathsome discharge and hemorrhage were enough to justify me in recommending the operation in each and every case. It is our duty to operate even on some of the desperate cases, in order to relieve the loathsome discharge and hemorrhage. By such means I believe we can educate the general practitioner to recognize the value of early operation, so that he will send or bring his patients at the proper operative period.

A point which the doctor did not mention in his paper is this: It has been clearly shown that when cancer involves the fundus it is much less likely to return than when it involves the cervix. I could name cases in which the cancerous mass was as large as a hen's egg, taken out of the fundus and the uterus removed, and the patients remaining well six and seven years after. So in cases of cancer of the fundus of the uterus we have reason to expect definite results where the disease involves the cervix. I simply rise to make a plea for vaginal hysterectomy for malignant disease, *early*, if you can; *later*, if you must.

Dr. JOHN M. DUFF of Pittsburg—The last speaker has voiced my sentiments to a great extent. My percentage of deaths have been high, and those who did live for any length of time, without having an operation done, so far as I know, lived for a single year. On the other hand, with operations I find patients living from three up to twelve years, on whom a vaginal hysterectomy has been done. I can not believe that a case in which vaginal hysterectomy is not indicated is one in which we are justified in doing the bolder operation, namely, of going through the abdominal cavity. The great point in this question is one which I would like to emphasize, namely, that in the vast majority of cases the women have not only been careless themselves, but they have been informed by their attending physicians that they were suffering merely from a change of life. Only last week a woman came to me and said her physician had told her it was not necessary for her to pay any attention to the discharge she was having, as it was a necessary sequence in most women during the climacteric. I do not want to be too radical in expression, but as far as my observation goes, I do not think I have ever seen a woman who was healthy who had any trouble so far as the disarrangement of her menses is concerned during the climacteric. I do not say all have cancer, but may have some disturbance. They have some uterine trouble in the vast majority of cases, and we as physicians can do considerable good by impressing on the public the necessity of examination in these cases.

Dr. G. B. MASSEY of Philadelphia—I do not think one can blame the general practitioner for being slow in sending these cases to the gynecologist, for the general practitioner knows that there is a difference of opinion among them as to the value of hysterectomy for cancer of the uterus. The difference of opinion sometimes depends upon the place and the manner in which the opinion is given. The opinion was expressed to me personally by one of the most eminent operators in this country, privately, that the cancer returned after this operation in a different situation, and was always more painful; and his further remarks were certainly different from those which men are accustomed to making before bodies like this. There are other reasons for keeping these patients from the hands of operators, natural timidity, a widespread lack of belief in the cure of cancer, etc. Before another Section I shall report a case of incipient carcinoma of the cervix which was cured by the cataphoretic method, and I now feel disposed to recommend it as a new and most valuable cure for cancer. It consists in disseminating mercury throughout the cancer by cataphoresis, the physical transition of mercury, but more particularly of its oxychlorid in an acid condition from the electrode placed in contact with the cancer. I had a record of four out of eight cases which were cured under experimental conditions, in conditions where I first did not use enough of the current. The later cases proved the necessity of a very heavy current, as much as a thousand milliamperes for carcinoma; while less current will do in cases of sarcoma. I will briefly report one case.

Something over a year ago a woman had a slight ulceration. She was examined accidentally by Professor Parvin, who pronounced it carcinoma, advised curetting and the alternative hysterectomy. She was placed under treatment a year ago this month by this method. I used about one hundred milliamperes daily. There was immediate improvement and now it has entirely healed up. I have had other cases, one of cancer of the breast, which I shall not report at this time. Since we do not know what cancer really is, it is proven by this method that the cells of cancer, or whatever it is, may be killed *in situ* by the diffusion of the most powerful antiseptic known, the oxychlorid or chlorid of mercury in an acid condition. It has been proven that the impact or association of these atoms at a distance of from one-quarter to an inch from the electrode will cure cancer without killing connective tissue in old subjects.

Dr. HENRY O. MARCY of Boston—We usually have supposed that we were indebted to Dr. Bennett of Edinburgh, who thirty years ago made a clear demonstration that cancer was first a local and afterward a constitutional or disseminated disease. If we accept this as the basis of our interpretation, I am quite sure that we are equally certain that we have but one answer to make in the discussion of the subject before us. If the disease is local, it is within the limitation of the surgeon, and it is a bounden duty on his part to remove it from the general organism. Based upon these premises, I am quite sure vaginal hysterectomy is as scientific a procedure as is the removal of the cancerous breast, or when the disease occurs in any other part of the organism. The question arises: When and how thoroughly shall the operation be done in a given case? Hence the discussion is narrowed down to a comparatively safe and sure limit for determination. Scarcely more than a decade since we first held that such an operation was the correct one, but the question now is: What are its limitations? How far may we trespass upon such an important structure as the uterus? If we have a patient in which it is determined that the disease is local, the surgeon's duty is plain. The trouble formerly was that the local physician first tried his own application until the case had progressed too far for operation. This is, fortunately, not so common now. If the disease has become disseminated throughout the broad ligaments it is quite another matter, and the operation is not possible.

Dr. J. WESLEY BOVEE of Washington, D. C.—I wish to enter a plea in the same direction as Dr. Marcy, particularly in those late cases. There is no doubt in my mind of the necessity and efficacy of vaginal hysterectomy in the early cases, and I am sure that in my experience vaginal hysterectomy in the late cases have been very beneficial. I have operated on a number of cases that have been cauterized and curetted previously by other operators with the idea that hysterectomy was of no use, and some of those cases are living now, it being more than two years since the operation was performed, and without evidences of return of the disease. A great deal can be done surgically for those cases in which the disease has involved the broad ligaments. The advantage of a surgical operation over the method described by Dr. Massey is along these lines. Surgical interference does practically all it can do at the time of the operation; whereas the treatment with electricity does not do it in one application, but by continued applications, and after the first application there is a possibility of the disease continuing to spread, while surgical interference cuts it short. There is no doubt but what we have a number of excellent results following what we might consider hopeless cases for hysterectomy.

Dr. JAMES T. JELKS of Hot Springs, Ark.—I want to dissent from the opinion advanced by one of the gentlemen this afternoon, that we should operate on all cases of cancer of the uterus by vaginal hysterectomy. If we get the case early enough, and

the operation is a radical one, it is followed by recovery of the patient. But there is a line somewhere beyond which these operations are not followed by successful results, and inside of this line they get well permanently. I am in favor of early total hysterectomy. It is a comparatively common affair for patients to enter our offices with carcinoma of the cervix or of the body of the uterus absolutely breaking down, with involvement of the vagina and broad ligaments, and to my mind it is hopeless to operate on such cases. My experience has been that where these patients would probably have lived without operation for some time, they die within one year after operation. It may be different with some of the gentlemen here, but I am certain that we shorten the lives of the old women by resorting to vaginal hysterectomy by sowing the seed of the disease in the cut surface. Instead of there being localized disease, involving the sloughing or ulcerating cervix, we have the cancerous disease disseminated through the broad ligaments and lymphatics. I want to dissent from the opinion that we should resort to total hysterectomy in late cases; but I am in favor of early and radical interference in all recent cases.

Dr. J. HENRY CARSTENS of Detroit—It seems to me, we do not know very much about cancer. I see some of the cases very early and resort to vaginal hysterectomy and feel sure the disease will never recur. About six months thereafter the patient comes back with the disease having returned. My next case is a very bad one, reaching on the border-line, and I do not know whether an operation is justifiable or not. I operate, however, giving the patient the benefit of the doubt, knowing, beyond the question of a doubt, that in this case the disease is going to recur in a few months, but it does not and has not up to this day. So I make up my mind that we do not know after operation whether the disease is going to recur or not. I agree, with Dr. Eastman, that we ought to give these patients the benefit of an operation, if only to relieve the distressing discharges, the hemorrhage, etc. In surgery, when we do this, we must use a good deal of tact and have it thoroughly understood that we must not promise too much in any case. Let the patient understand also that the disease may recur. The family physician promises too much in some cases and we ought to be careful to guard the interests of surgery.

Dr. DUDLEY of New York—Vaginal hysterectomy for malignant disease depends simply upon the diagnosis. If a patient comes to us with the uterus free from disease, and the disease has not gone beyond the limits of the cervix, vaginal hysterectomy in my judgment is the proper operation, but if there is intrapelvic disease and the uterus is fixed, or if the vaginal wall or broad ligaments are involved, then an entirely different operation should be performed. Therefore, he who would operate successfully for malignant disease of the uterus should be able to make a diagnosis as to the limitations of it. The limitation of the disease must be first determined. If the disease is not limited to the organ, then the combined method should be resorted to in order to accurately ascertain the extent of involvement. I have operated on a number of such cases and have found it has always been good judgment on my part to invade the abdominal cavity from above and do the combined method. I therefore believe that vaginal hysterectomy will depend upon the point I have mentioned.

Dr. C. C. FREDERICK of Buffalo—I concur in all that has been said and rise simply to report a case bearing upon the point of rapidity with which certain cancers progress, and the slowness with which other cases advance. Within the past week it has been my fortune to see a well-advanced case of cancer, the woman having severe hemorrhages. Dr. Mann some seven years ago made a diagnosis of carcinoma of the cervix in this case and at that time advised extirpation. I immediately saw Dr. Mann, who had made sections from the case seven years ago and pronounced the disease cancer, and still the woman was alive. This case points out the malignancy of different cases, and consequently we are not able in any given case to determine whether the disease is going to progress rapidly or slowly. Therefore, in some cases we think vaginal hysterectomy or total extirpation is not indicated, while in others it is. In one case upon which I operated, the disease returned at the end of four months. Quite an extensive operation was done with the expectation that the disease would not return, but it recurred in a pronounced form at the end of the period named, and was rapidly progressive.

Dr. HOWARD A. KELLY of Baltimore—I believe that the destiny of vaginal hysterectomy is that it will be performed by the abdominal route, by which means the large wings of the broad ligaments can be removed and all the involved tissues dissected out. Preliminary catheterization of the ureters is the one essential feature in this operation to enable us to keep these organs under the finger and thereby avoid injuring them. I believe that many physicians can not recognize cancer of the uterus even in its late stages. The immediate mortality of the Clarke operation is slightly greater than that of vaginal hysterectomy, but the ultimate results are better. I would insist upon repeated examinations of women who have borne children, beginning within four months after labor, and repeated at suitable intervals.

Dr. A. GOELET of New York—I agree with Dr. Kelly in regard to the destiny of vaginal hysterectomy, and I will mention briefly a case of my own which illustrates this point. It came under my observation quite recently. The case was sent to me with a suspicious history. A short time ago the uterus was carefully curetted, the scrapings examined and the disease pronounced adenosarcoma. The patient was absolutely relieved of every symptom and was in good condition in spite of the revelations of the microscopic examination. However, I decided that a hysterectomy was necessary. There was slight suspicion of involvement of one broad ligament. I found that I could not cope with the conditions by the vaginal route, and that in order to be certain of removing every vestige of the disease I would have to enter from above. To show how difficult it is to be certain of diagnosis by ordinary methods, I will state that the specimen showed the mucous membrane of the uterus to be in an absolutely healthy condition, excepting in one place, the cornu of the uterus, where perhaps the curette had skipped. But the mass in the broad ligament, which was scarcely perceptible in my examination before, was of such a character as to be difficult to remove through the abdomen. However, I succeeded in removing it, but feel satisfied that it could not have been removed by vaginal section.

Dr. JOSEPH PRICE of Philadelphia—We all know that a discussion is very much smoother than an operation. We know very well that it is exceedingly common for some operators, if they find complications, to abandon an operation and call the case inoperable or hopeless. To go back a short way in this discussion, many years ago Sims visited Boston and was asked by Oliver Wendell Holmes to make some remarks to his class. He lectured on the treatment of cancer of the cervix. He recommended the curette in removing the disease and cauterization, repeating this procedure thrice or many times, and it is stated that his patient lived a long time. In some of the cases, the more malignant ones, there was a speedy recurrence of the disease with early death. The use of the curette and cautery in seemingly hopeless cases has been followed by great improvement. This is true, notwithstanding that the curette and cautery had been used twelve or eighteen months prior to a radical operation by a second operator. Twelve months is quite a long time for recurrence in many cases of this character. We have all known or have seen so called hopeless cases with extensive invasion of the vaginal walls whose lives have been prolonged for twelve months or three years in which the curette and cautery were freely used. I am surprised quite frequently at the statements of physicians when they return to me with a second or third case for operation. For instance, a physician brought me a patient upon whom I was to perform a hysterectomy, and I asked him what about the cancer case? He replied that she was doing well, and it was about two years since I used the curette and cautery in that case. I operate on every patient who comes to me. No one can accuse me of backing out from a vaginal hysterectomy, as I prefer the vaginal route to all others, excepting in those conditions to which Dr. Hall has alluded, the presence of complications in the tubes and ovaries. In case the tubes and ovaries are involved in the malignant disease, I would resort to the abdominal method. I have repeatedly removed half the vagina in these cases. As to recurrences of the disease, they are usually to be found in the bowel and bladder, and in these cases the suffering is intense. I do not remember of seeing a single case of cancer that did not recur in eleven years. One observer has made the statement that if it is cancer, it does return; if it does not return, it is an error in diagnosis. Some of the cases that do not recur are erosions of the cervix.

Dr. THOMPSON—I am glad to have the opportunity of saying a word relative to operating upon cases of carcinoma of the cervix, and also with reference to the importance of early diagnosis. I can not refrain from emphasizing the importance of exactness in diagnosis, not only as regards carcinoma of the uterus, but of carcinoma of the mammary gland. About three years ago a patient came to me with a small lump in the mammary gland. The woman was rapidly getting worse and was mentally depressed by the presence of this growth, and although she had been seen by eminent gynecologists both in Boston and Philadelphia, none of these gentlemen saw fit to advise operation. When she came under my care I decided to consult my friend, Dr. Kelly of Baltimore. Dr. Kelly advised operative interference and the mass was successfully removed. A section of the tumor mass was examined microscopically and

was found to be carcinoma. It is now two and a half years since the operation was performed and the woman is living and in perfect health.

Dr. HALL (closing the discussion)—I am very glad indeed that my paper has had the desired effect of bringing out a very liberal discussion, although many of the members present did not hear the paper. Many of those who differed with me in the first part of the discussion practically agreed with me that early diagnosis was absolutely necessary in order to extirpate the uterus by the vaginal method with good results. Total extirpation by the abdominal route and catheterization of the ureters were mentioned in the paper. One great difficulty we have to contend with is in getting women to come to us for early examination. If Dr. Kelly can accomplish what he proposes, then there will be no excuse for abdominal hysterectomy.

FIBROID TUMORS OF THE VAGINA, WITH REPORT OF A CASE.

Presented to the Section on Obstetrics and Diseases of Women at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1–4, 1897.

BY J. M. EMMERT, M.D.

PRESIDENT IOWA STATE BOARD OF HEALTH.
ATLANTIC, IOWA.

May 10, 1895, I was called in consultation with Dr. Weaver of Cumberland, Iowa, to see Mrs. A. G. M., who gave the following history: Born in Germany; aged 46; married three times; now living with last husband; had six children, of whom three are now living; last child delivered by forceps. About 1892, while working in a brewery, lifting and carrying heavy baskets of bottles, she felt a heavy, dragging sensation in her pelvis and upon examination a tumor was found in the vagina. She was taken to a hospital where she says she remained twenty weeks. She states that no operation was performed, but the tumor was allowed to slough away, or partly so. After leaving the hospital and coming to this country she for a time felt no inconvenience from the tumor; but the dragging sensation again returned and Dr. Weaver was sent for, who asked me to see and remove it. On examination I found a tumor protruding from the vagina. The dependant part had undergone necrosis and was bathed in foul-smelling muco-pus. It was found to be attached to the anterior wall of the vagina by a sessile base, extending from an inch posterior to the meatus and to within about an inch of the cervix. It was removed by enucleation and the patient recovered without any difficulty. The tumor, after its removal, weighed one and one-fourth pounds, was four inches in length and two and two-thirds inches in diameter, being oval in shape. It was hard, and cutting into it presented the feel and appearance of a fibroid growth. When I looked up the literature and found how rare these growths were, I concluded that my diagnosis was wrong, and a section was sent to Prof. J. C. Bay, bacteriologist to the Iowa State Board of Health, who made the following report:

March 5, 1895.

Dear Doctor:—The specimen from a tumor was duly received and examined. A number of sections through the fragment and in different directions failed to show any signs of carcinoma, but gave evidence of fatty degeneration. The growth is, however, not one of lipoma, but rather of fibro-muscular nature. The latter are quite polymorphous, and I judge that the present case is one of so-called fibromyoma.

Respectfully, J. CHRISTIAN BAY.

In connection with the report of this case, I desire to present the result of a careful review of the literature as well as an extensive correspondence, not only with the prominent surgeons and gynecologists of the country but the general practitioner as well. My experience has convinced me that the growth is very rare, but not so much so as a review of American text-books would suggest. Several of the most popular works do not even mention it; others dismiss it with from three to ten lines. "The American System of Gynecology," by Mann, devotes a page and a half to the subject, three times as much as any of the rest. My reason for believing the cases are more numerous than supposed, is the result of my canvass of Iowa, which was quite thorough, and where I found one half of my list of unpublished cases, besides rejecting a number of cases which gave such incomplete and unsatisfactory data that itwas thought best not to include them in the list. I had a number of small tumors reported, always on the posterior wall. These cases were reported as fibroid tumors, but a letter from Prof. W. R. Pryor of New York caused me to reject them. He says: "I have met with hard fibrous nodules in the posterior wall and never over one-half inch in diameter. I have always considered them due to coagulation of blood in a hemorrhoidal vaginal vein, and a few times I have found even the smallest ones containing calcareous deposits." Rejecting this class of cases, with some others where the authors were not sure that the tumor did not grow from the uterus, and a few that gave a history of malignancy from the start, I have succeeded in collecting twelve published cases and twelve unpublished cases.

My examination of the literature was confined to that found in the Newberry Library in Chicago. I am aware that this list is imperfect both as to numbers as well as scientific value, as the diagnosis in most of the cases was made by macroscopic examination, and some cases which had been seen some years ago were reported from memory alone. Yet these cases were mostly reported by men standing high in the profession and, therefore, the diagnosis more readily accepted. When there was any question as to the diagnosis in the mind of the author the case was thrown out. The following is a very brief report of each case:

Case 1.—Oct. 17, 1895, J. B. Murphy, M.D., of Chicago removed a tumor from the anterior wall of a woman, the size of an apple and weighing 57 grams. It had been operated on two years before. Microscopic examination showed it to be a myxofibroma.

Case 2.—Operator, Henry T. Byford, M.D., read before the Chicago Gynecological Society June 19, 1885. Age 35, married; site of attachment and weight of tumor not given. There was also a tumor the size of a goose egg felt on the right side of the uterus. Cause given, overwork. No microscopic examination.

Case 3.—An interesting case by John C. DaCosta, M.D., of Philadelphia, published in the *Medical News* of Oct. 26, 1895. Age of patient 40 years; a Pole; attachment, anterior wall; sessile. It measured, antero posterior, six and one-half inches, transverse, four inches. The dependent portion of tumor was ulcerated.

Case 4.—Edward B. Stevens reports a case in the *Obstetrical Gazette*, 1881. Age of patient not given; size, that of a walnut; grew from posterior wall; attachment, sessile. It was first diagnosed as an abscess, as pus had been discharged from the tumor. Upon removal it proved by the microscope to be a fibroid, with a small abscess cavity in it.

Case 5.—In the *Virginia Medical Monthly* for 1886–87, Horatio R. Storer, M. D., reports a case. Age 35, married; attachment, anterior wall, high up and sessile; weight one and a half pounds; shape and appearance that of an ox heart; measured fifteen inches in circumference. Considerable difficulty was experienced in delivering the tumor after cutting off with an ecraseur.

Case 6.—A. M. Cartlege, M.D., reports a case in the *American Practitioner*, 1888, under the head of "A Rare Vaginal Tumor." Age and attachment not given. On microscopic examination it proved to be a fibroid tumor with sarcomatous degeneration.

Case 7.—In the *Boston Medical and Surgical Journal* for 1892 Charles M. Green reports the following case: Age 51,

married; history good; size, as large as a hen's egg; attachment, anterior wall. Microscopic examination showed it to be fibromyoma.

Case 8.—Archibald Donald, in the *Medical Clinical* for 1888, reports a case in a woman aged 36, married; attachment high up in the posterior wall; size, as large as a small orange. Anemic from loss of blood. Microscopic examination, fibromyoma.

Case 9.—A case reported to the New York Obstetrical Society by Dr. Hunter, and published in the "Transactions." Size not given; attachment extensive, to posterior wall. The patient was pregnant and question of operation was discussed, but he does not state whether it was removed.

Case 10.—Dr. A. C. Godfrey, in the *Colorado Medical Journal*, reports the following case: Age 35, married; attachment, anterior wall by pedicle, which dragged the bladder down, forming a cul-de-sac. Size of tumor not given, but large enough to fill the vagina. Under the microscope it proved to be a fibromyoma.

Case 11.—A case reported to the New York Obstetrical Society by W. M. Polk, M.D., and published in the "Transactions" of the society. I was unable to find this case in the "Transactions" but quote from a personal letter: "It is ten or twelve years ago since I presented it. There was nothing remarkable in the history, and the woman seems to have had her attention called to it on the score that it was a case of prolapse of the uterus. The tumor itself was about two inches long by about three-quarters of an inch in diameter. In general outline it was cylindric, with rounded ends and was imbedded in a capsule which was very much attenuated, except at the end of the tumor where attached to the vagina."

Case 12.—A case reported by J. C. Moore, M.D., in the *St. Louis Medical and Surgical Journal* for 1895, and referred to by John C. DaCosta, M.D., in his paper reporting his case.

The following are the cases never published, but collected by correspondence. In my circular letter I asked the following questions: Did you ever treat a case of fibroid tumor of the vagina? What was the age of the patient? Was she married or unmarried? What was her social environment? To what part of the vagina was it attached? What was its size and weight? Was it examined microscopically? What treatment was adopted?

Case 13.—Reported by J. J. Maxwell, M.D., of Keokuk, Iowa. Age 62, farmer's wife; posterior wall attached by pedicle; weight eight ounces. No examination made (this means microscopic examination).

Case 14.—Reported by D. Macrae, M.D., of Council Bluffs, Iowa. Age 35, Dane, working woman, married; anterior wall by pedicle, two ounces; not examined.

Cases 15 and 16.—Reported by J. Taggart Priestley, M.D., of Des Moines, Iowa. No. 15: Age 21, unmarried, wealthy; posterior wall; as large as an English walnut; woman had double vagina and double uterus. No. 16: Age 32, married; posterior wall; as large as a goose egg. Neither were examined microscopically.

Case 17.—Reported by Dr. Williamson of Ottumwa, Iowa. Age 40, married, middle class; attachment, right and posterior wall; as large as a hen's egg; no examination.

Case 18.—Reported by Dr. Aldrich of Galesburg, Ill. Age 36, married, environment good; attachment to right side; as large as a hen's egg; was not examined.

Case 19.—Reported by E. Lampher, M.D., of St. Louis. Age 54, married; attachment to anterior wall; size, two inches in diameter; examined by microscope and found to be a fibroma without any evidence of malignant degeneration.

Case 20.—Reported by Dr. Skinner of Cedar Rapids, Iowa, Age 44, married, environment good; attachment to anterior wall; weight one ounce; no examination.

Case 21.—An interesting case reported by William Watson, M.D., of Dubuque, Iowa, and removed in 1862. I quote briefly from the Doctor's letter: "The patient was single, age 45. It was extruded as by labor pains. I at first thought it was the womb. The attachment was large and fleshy, but I am not just positive as to its attachment. I passed a strong double ligature through the neck and tied it as tight as possible both ways and cut it off. It was as large as a child's head at birth; was somewhat elongated. My recollection is, that it weighed over twelve pounds. The woman made a good recovery."

There is a question as to the propriety of including this case in the list; as it may have been a fibroid of the cervix or uterus.

Cases 22 and 23.—Reported by Herman J. Boldt of New York, who was unable to find the notes of his cases, but kindly wrote me a description from memory. I quote from his letter: "They occurred in women in the 30's, married. The tumors were in the middle third of the vaginal tube, one in posterior wall, the other in right side. Both tumors were the size of small guinea eggs."

Case 24.—An unpublished case of Henry T. Byford, M.D., of Chicago and reported from memory. Tumor as large as a large egg, but no further particulars.

The following is a brief note from T. Gaillard Thomas, M.D., of New York: "In a practice of over forty years I have seen several cases of fibrous tumors taking their origin in the vaginal wall, but I have no notes of them and am unable to aid you." He also quotes the following from Sydenham: "False facts are more dangerous than false theories," which may be appropriately applied to at least a part of this paper.

The following is quoted from a letter from E. C. Dudley, M.D., of Chicago: "I have seen three or four cases of fibroid tumors of the vagina. I have no record of these cases and, therefore, regret that I am unable to supply you with further details."

Leaving out the cases of Drs. Thomas and Dudley, I have tabulated twelve published and twelve unpublished cases. Counting two for Dr. Thomas and three for Dr. Dudley, would bring the number up to twenty-nine. In reporting the published cases I have included none outside of the United States. In 1882 Kleinwachter collected fifty cases. Bresky, up to 1887, had collected thirty-seven cases, but, in my investigation, I found a number of cases reported in Europe since that time. It would make this report too lengthy to enter into a discussion of the etiology, symptomatology and pathology of these tumors.

The following is a brief summary of the cases collected: Out of sixteen cases where the age was reported, ten were over 30 and under 40 years of age. The youngest was 21 and the oldest 62 years old. The average age was thirty-five and seven-eighths years. The attachment of the tumor was given in seventeen cases, of which ten were in the anterior wall, five in posterior and two in lateral. This agrees with Briskey, as he found 63 per cent. in the anterior, 26 per cent. in the posterior and 11 per cent. in the lateral wall.

There were fourteen reported as married and two unmarried. One 45 years of age; six reported as examined with the microscope; twelve reported as not being examined and the balance no report. Sessile attachment occurred in fifteen, pedicle in three, balance not given.

The weight was from a few grains to twelve pounds, Dr. Watson's case. If we accept this as a fibroid of the vagina, it is the largest on record, as the celebrated case of Gremler weighed ten pounds.

Where the social status was given, with one exception, the cases were from the middle or inferior class. This would indicate that they occurred at the period of greatest sexual activity. Yet that can not be given as the only cause of the disease, as Martin found a case in a newborn infant.

The Sclerogenic Method in Strumous Synovitis.—Prof. Delassus has been treating several cases of white swelling of the knee with Lannelongue's sclerogenic method and is impressed with its value in all such affections of the joints. It does not compromise more radical intervention later, in case of failure, and the functional results secured are satisfactory in most cases.

CRITICISMS ON REMARKS IN THE DISCUSSION OF DR. CLARKE'S[1] PAPER ON DISPLACEMENT OF THE UTERUS.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY FRANKLIN H. MARTIN, M.D.

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CHICAGO.

In imagination, two days ago, I sat in this hall as an inexperienced practitioner of medicine, seeking for some light on the subject of displacements of the uterus, which might be afforded me by the discussion of Dr. Clarke's excellent paper by the many gynecologists present. The discussion, hesitatingly begun, waxed eloquent, grew aggressive and, in the vortex of its climax, many voices of learned men were heard. To me, in my capacity of an imaginary beginner, confusion existed in my mind at the commencement of the discussion, but when the discussion grew in proportions, my mind became a whirlwind of conflicting emotions, because of the many positive, not to be appealed from, opinions, of a diametrically opposite character thundered at us from as many different distinguished specialists.

The discussion was begun, as all hot discussions on gynecologic subjects are begun in Philadelphia, by one of the big four of the Philadelphia Obstetrical Society (that society from whose pap we Westerners have for long drawn inspiration and pyrotechnic ammunition). M. Price made the subject seem easy by disclosing to us the fact that displacements were always caused by atrophy of some part of the uterus or its supports, and that operations consequently were never necessary, but that the case should be treated by local stimulants, exercise, etc.; that "Johns Hopkins'" operation should never be thought of; that the Alexander or any other method of shortening the round ligament should not for a moment be dreamed of, because he had known a pedicle, representing the cervix and lower part of a uterus, to stretch under the obsolete torturing device, the *serre nœud*, to a length of eight inches. Certainly, to us inexperienced light-seekers, this profound opinion and the following argument, seemed to dispose of the whole subject. But, to our confusion, up rose our distinguished ex-President from Indianapolis and, "without desiring to go into the subject deeply," he had decided that too much sexual indulgence on the part of our patients was a fruitful cause of uterine displacements. Constant exercise of the nerves presiding over this erectile organ paralyzed them, and the muscles controlled by these nerves (uterus, supports, etc.) stop acting and things in the pelvis droop, as it were. This distinguished clinician would recommend a barbed wire pessary. As about one-third of the cases of displacements of the uterus which, in my limited experience, I had observed were in women I had supposed to be virgins, my nerves received a severe shock and I began to grow a little incredulous.

When the applause had subsided on the barbed wire pessary, a slight stir ensued, and there stood before us another member of the Price family, the veritable Ajax of the big four of the Philadelphia Obstetrical Society, with the lightning transferred from his hands to his eyes, and while we settled back to drink wisdom from his caustic tongue, lo! what did we hear! Why, that the whole trouble was that the uterus is too large; that it is not atrophy at all, as the other member of the family would have us think, but that it is hypertrophy which induces displacements. Instead of sewing the uterus to the abdominal wall and inducing a tangle of omentum, intestine and other important internal organs, for which he would subsequently be called several hundred miles into the country to make a second life-saving operation, for, instead of this he would remove the Indianapolis barbed wire pessary, and insist that the good woman put herself in the way to conceive, even if she had to send her husband away from her to a Berlin Congress in order to accomplish the result. As a proof of the efficacy of this treatment, he cited eleven cases in the families of his immediate medical friends in Philadelphia, in which just such treatment effected a cure of retroversion in each and every case. He ended his profound observation by advising twins as a treatment for all misplacements of the uterus. The applause which followed his scientific remarks almost convinced me that he must have struck the keynote of the whole subject, and that in the future my patients with misplacements would have to seek conception or forever go uncured.

At this point a member of the Section, of an acrobatic turn of mind, suggested that we should advise our women with retrodisplacements of the uterus, to go on all fours. If this should prove to be successful, what an argument against the evolution of man it would be!

Goldspohn here shot in a short argument in favor of Alexander's operation for certain forms of retroversion.

Hall of Cincinnati condemned *in toto* Alexander's operation, because the operation, when done by *other* operators, was a frequent cause of inguinal hernia.

Our temporary Secretary then astonished us all and upset our already confused ideas, by stating that the uterus did not have any normal position; that it just existed anywhere in the pelvis that was not occupied by feces in the bowel or urine in the bladder; that it was retroverted when the bladder was full and the bowel was empty; that it was anteverted when the bowel was full and the bladder was empty; and I am still wondering what becomes of it when both bladder and rectum are full at the same time. The logical conclusion of this reasoning, I should think, would be that the uterus should be removed from the body in order that the rectum and bladder might perform their normal functions at the same time. If the speaker wished to convey that idea, however, by his argument, he did not state it in so many words. We were left to draw our own conclusions the best we might, and to treat misplacements in our own way, if we were fortunate enough to catch the uterus in its numerous excursions about the lower part of the abdomen.

Then Newman got into the discussion long enough to advocate Alexander's operation in proper cases; that it cured hernias instead of making them; and those of us who had been driven to confusion by the Secretary's remarks, discovered by Dr. Newman's drawings on the blackboard that the uterus could always be found and drawn back from its excursions about the body, by pulling out one of the round ligaments.

[1] Dr. Clarke's article having been previously published elsewhere, is not reproduced.

Pessaries, in this discussion, were praised and condemned with equal fervor by equally eminent men.

Seriously, what does all this diversity of opinion mean? It means that this subject of displacements of the uterus is as broad as our specialty. It means that displacements of the uterus may be the result of many different causes. It means that it may be caused by atrophy in one case; that it may be caused by hypertrophy in another case; that it may be caused by *laceration* of the vaginal outlet in one case, that it may be caused by *relaxation* of the vaginal outlet in another; that the sacro-uterine ligaments through trauma or subinvolution may be the cause; that relaxation of the round ligaments through trauma or subinvolution may be the cause; that inflammation in the uterus or its adnexa may be the cause; that tumors, peritonitis, abnormally distended bowels, abnormally distended bladder, obstructed portal circulation, weak heart, poor blood, weak muscles, improper dress, poor food, all have determining influences in causing displacements of the uterus. It also means that no one form of treatment will cure displacements. It means that some of our patients require operations; that some of them require treatment; that some of them should conceive and nurse their offspring; that some of them should cease from excessive sexual indulgence; that some of them should be relieved of the strain of motherhood. It means that some of our patients should receive pelvic massage, postural treatment with supporting and depleting tampons; that they should be fed, their clothes regulated, their habits changed. It means that occasionally we should remove offending and diseased appendages; that we should remove tumors, and in suitable cases we should reinforce the natural supports by temporary or permanent artificial ones; that we should build perinei, repair cervices, lengthen the anterior vaginal wall; we should even do the ventral fixation operation, or the much-abused Alexander operation. Pessaries should be employed with intelligence, patients should be put at rest, others should be exercised.

Once for all, no scientific gynecologist can have a routine treatment for displacements. He should have many routine treatments for them, and each of these treatments subject to variation with each new patient.

The man who condemns, *in toto*, Alexander's operation, pessaries, ventral fixation, restoration of the perineum, amputation of the cervix, lengthening of the anterior vaginal wall, pelvic massage, postural treatments, any one of them for occasional means of cure of displacements of the uterus, is not, in my opinion, an all-round gynecologist. And, if you will apply that test to every gynecologist you know, you will find the successful and eminent ones practicing them in direct proportion to his eminence and success as a *gynecologist*.

Under the long list of remedies, medical, mechanical and surgical, which influence beneficially retrodisplacements of the uterus, I wish to single out and speak briefly on two, viz., Alexander's operation and ventral fixation. The men who condemn the Alexander operation are the men who have not done the operation a sufficient number of times to learn of its advantages and to have learned by experience its contraindications. The Alexander operation is one of the most difficult and delicate procedures in surgery. There are three stages which a surgeon must successfully encounter and overcome before he can practice it with success and proper conservatism. 1. He must learn that a great deal of unfounded prejudice exists in the minds of those who are ignorant concerning it, which, when it is duly sifted, will be found to arise from lack of actual personal experience with it. 2. He must spend a long apprenticeship in learning how to do the operation properly. 3. He must learn to discriminate carefully in the selection of his cases in the first enthusiasm of having learned to overcome the mechanical difficulties of the operation. I would not expect a man to utter a very valuable opinion on the subject of the Alexander operation who has not done, personally, at least one hundred cases. I would never expect to hear the operation condemned, in any particular, by a surgeon who has had that experience. He would invariably tell you that it is the rarest thing in the world for a hernia to result from it. He would almost invariably tell you that that erroneous opinion about the operation is usually disseminated by some busy surgeon who has not time to do refined plastic work, and whose only experience with it is the waiting for a hernia of this kind to turn up, on which he may operate.

This operation has but a small range of usefulness. That range is definite however, and most important. It is indicated in cases of retroversion without adhesions, without fixations, on account of atrophy; in uteri without diseased appendages. Inflammatory or cystic conditions in the pelvis, outside of the uterus, are a positive contraindication to the operation. The operation should not be performed in cases of prolapse of the uterus unless a concomitant operation, previously or at the same sitting, will restore the supports. The round ligaments are not constant supports; they are guys, the function of which is to exert an occasional restraining influence in preventing the uterus from being thrown, by unexpected jars or violence, into a position so that the intra-abdominal pressure will exert its influence in front of the crest of the fundus, instead of in the natural position posterior to its crest. They restrain the uterus from getting into retroversion, they have little influence after it once gets into extreme retroversion.

While there are many methods of doing the Alexander operation, the technique which will fix the round ligament successfully without burying the permanent sutures, in my experience, is the most satisfactory. I shorten and fix the ligaments by tying them together in a hard knot beneath the skin, fat and superficial fasciæ, on the strong structures of the conjoined tendon over the symphysis pubis. The wound is closed, including the external ring, by silkworm gut sutures through the skin, which are removed in ten days.

Ventral fixation is not an operation which should be condemned without a hearing. Its range of usefulness, too, is limited, but definite.

I seldom do the operation, unless the condition of the patient is such that future child-bearing is out of the question. I would not favor opening the abdomen for the specific purpose of fixing the uterus to the abdominal wall. I should limit the operation to cases of strong peritoneal adhesions, in which the appendages must be sacrificed on account of disease. To women near the menopause, or whose matrimonial prospects were *nil*, in cases of retroversion complicated with ovarian tumors, or other pelvic conditions demanding a laparotomy. I fear to fix the uterus in

cases in which pregnancy is possible or probable. This is because of the peculiar technique which I adopt. I perform an operation which requires no permanent buried sutures. I perform an operation in which there is no question about the permanency of the result.

The operation I refer to is that first described by George R. Fowler of the New York Polyclinic in the *New York Record*, Oct. 5, 1895. Briefly, it consists in suspending the uterus on a strip of the peritoneal tissue taken from one side of the abdominal wound, with attachment left at the lower angle of the wound above the bladder. This strip also includes the urachus, if it is present. This is accomplished by transfixing the posterior surface of the uterus, just back of the crest, to an extent of one cm. and to the depth of two mm., with a Cleveland ligature carrier, grasping the strip of tissue and drawing it through from the front, pushing the uterus well forward on the new ligament, temporarily fixing the uterus with a catgut suture and finally burying the upper and free end of the ligament in the abdominal incision in process of closing it. This makes a permanent and firm fixation, without buried permanent sutures, and without being obliged to depend on uncertain peritoneal adhesions for the success of the operation.

ULTIMATE RESULTS OF ELECTRICITY IN FIBROID TUMORS.

Presented in the Section on Obstetrics and Diseases of Women, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY G. BETTON MASSEY, M.D.
PHILADELPHIA.

A physician recently asked me the question if there really was any value in the electric treatment of fibroid tumors of the uterus. Being a general practitioner unfamiliar with the subject itself, and yet not entirely unfamiliar with my well-known position on this question, I was somewhat taken aback, as the expression is, at the assumption that my private views could differ from my public statements, and was most emphatic in my endorsement of published views. Subsequent reflection convinced me, however, that his question was a natural one and intended to elicit an expression of these esoteric views of our work which we sometimes indulge in to intimate professional friends, and which so happily govern the deliberate work of many men who are commonly thought too enthusiastic and over-professional. Taking for granted that those interested in hearing this short paper are in the same confidentially inquiring mood I shall endeavor to present a truly esoteric view of this question, as it appears to me at the present time, and am the more strongly impelled to do so from recollections of many frank conversations with my surgical colleagues when sending me patients whose relationship to themselves was such as to cause them to take an esoteric view of their own work.

And the difficulties in presenting this deliberately critical view of the Apostoli treatment are by no means inconsiderable. If the tumor were on the outside of the body, as in the case of skin tumors, carcinoma, etc., the question of electric treatment would be purely one of electric engineering, for there is no form of moisture-containing growth on the outside of the body that can not be reduced, at one sitting, to its inorganic elements of naked atoms of carbon, nitrogen, oxygen, chlorin, etc., without the loss of a drop of blood external to the tumor. But this can not for obvious reasons be done safely within the interior of the body. The electrophysics of the Apostoli treatment are not a destructive electrolysis of the growth so much as the use of sufficient current to change the biochemic processes on which the existence of the growth depends, and to stimulate the physiologic resistance of the surrounding structures to an absorption of the redundant tissues. The question of the adaptability of a given tumor to this treatment is largely a question of the vital conditions around and within the tumor therefore, and is only capable of being determined in the light of experience. But it should not be overlooked that this careful selection to ensure best results applies almost entirely to the question of the anatomic cure. Nearly all uterine fibroids, mainly except the cystic and subperitoneal varieties, are made better by electric treatment. But it is interesting to know in how many cases this improvement is permanent and sufficient to be satisfactory to the patient and her friends. To determine this point with accuracy I made, some months ago, a special inquiry into the after-history of cases treated by myself. The facts concerning seventy-one cases of the intra-mural and interstitial varieties were thus ascertained, and as these are the varieties regarded as best adapted to the Apostoli treatment the results of the inquiry were most interesting. Of these seventy-one cases I ascertained, personally, that the tumor and all symptoms had disappeared by absorption in five cases. In seven cases the patients themselves reported a disappearance of the tumors with all symptoms. That made twelve anatomic and symptomatic cures, five of which were verified. Of the remainder, twenty-nine had been greatly reduced in size and symptomatically cured; and seven had been failures to effect any change. This gives a rate of 90 per cent. of practical successes and 10 per cent. of failures.

All the cases with arrested and slightly reduced growths were comfortable and satisfied except two, who still found the remaining portion of the tumor a discomfort.

Seven cases had been operated upon, all but one of which were in the list of failures to be helped by electricity. The one case that was operated upon after satisfactory results had been attained by electricity was a very ignorant dispensary patient who accidentally fell into the hands of a surgeon who was unaware of my work and interest in her case. The result was fatal in this case and in two others out of the seven operated upon. In none of these cases was the operation that was finally performed made more dangerous or difficult by the previous electric treatment.

These were practically ultimate results of electric treatment, for the reports were obtained at periods varying from three to nine years after the cessation of treatment.

Viewed as a whole it is evident that a method that yeilds 90 per cent. of practical successes without the risk of an operation, and with the retention of all the organs, is one worthy of more extended application, particularly when the 10 per cent. of failures merely left this percentage of cases where they were at in the beginning and did not prejudice other forms of treatment.

Aside from the results obtained in the arrest and reduction of these growths it is a most significant fact

that symptomatic cures were almost invariably secured, for in some of the failures enumerated in the list published in the "Transactions of the American Electro-Therapeutic Association," the symptoms were either ameliorated or they were growths whose chief symptoms were their bulk alone. That most troublesome symptom, hemorrhage, was invariably relieved, and more quickly since the use of mercurialized zinc electrodes, possibly due to the same interstitial influence of the cataphoric diffusion of nascent oxychlorid of mercury which I announce in another Section of this meeting as a new specific for cancer.

As to the varieties of fibroid tumors easiest affected by carefully conducted electric treatment, it has already been said that, with some exceptions, it is practically restricted to the intramural and interstitial forms. Since all small tumors are of either of these varieties, it may be said that, in their earlier stages, all fibroids are amenable to electricity, hence the early recognition and electric treatment of small tumors will not only arrest their growth but preserve in its entirety the sexual and other pelvic functions of the patient. Of the larger intramural and interstitial tumors those are most amenable that have multiple foci of growth, the large, smooth, monocentric growths being least amenable.

As to the comparative value of the method over any other treatment in the cases adapted to it, it is hardly necessary for me to say anything, for of the risks and final results in successful cases of its chief alternative, hysterectomy, others are better judges. I may, however, say that no treatment is better that does not result in 90 per cent. of the cases being returned to their families and society as whole women, as these patients have been.

DISCUSSION.

Dr. A. G. BANKER of Columbus, Ind.—In electricity for the treatment of fibroid tumors we have a valuable agent, and if the practitioner has perseverance and can mantain the confidence of his patients he will effect a cure in a large number of cases. He will have no ventral hernias; no subsequent risk of constriction of the bowels from adhesions following operations, and he will satisfy his patients. My experience with this agent in the treatment of these growths has been limited in country practice. I have treated about twenty patients who had fibroid tumors of the uterus. Some of them had previously consulted experienced abdominal surgeons, who had given an unfavorable opinion, but the patients after receiving electric treatment are perfectly well today. In one case the growth was quite rapid. The patient had been previously seen by a noted gynecologist who decided that an operation would mean certain death. She had been in bed for several months. Her feet and legs were greatly swollen. After beginning the electricity, which was kept up for some time, the tumor was materially reduced in size, and menstruation, which had been previously irregular, became normal from the commencement of the treatment. She is now practically well and no one would suspect that she had ever had a fibroid.

Of the twenty cases I have treated, in seven the fibroid tumors were quite large, and in none of them can there be found, at the present time, any evidence of the tumors.

COMPARISON BETWEEN TYPHOID FEVER OF INFANTS AND CHILDREN AND THAT OF ADULTS.

Presented to the Section on Diseases of Children, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, June 1-4, 1897.

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Typhoid fever occurs so rarely in very young infants and children and, as a rule, pursues such a short and mild course, that many have denied that it is ever seen in infants under two years of age, and have maintained that it seldom occurs in those younger than five years. Systematic observations have altered these views. Pathologic investigations have shown that no time of life is exempt from the disease, although they have strengthened the opinion that it is very rare below the age of two years. The child is subject to every other form of contagion and removed from the sources of this only by reason of special care in diet. This may explain its continued absence from large institutions devoted to the care of children. It argues strongly in favor of prophylactic measures.

The study of the disease as it occurs in the child is of importance, as it appears to throw special light on some of its features and to yield indications for treatment.

The problem presented is, Why should the bacillus of typhoid produce a disturbance of shorter duration and less severity at one period of life than at a more advanced?

In considering this question let us first examine the pathology, then the symptoms and treatment. All writers on this subject agree that there is redness and swelling of Peyer's patches, the solitary follicles and the mesenteric lymph nodes, and accompanying these are the evidences of a catarrhal enteritis. They agree, moreover, in the statement that these lesions found in the intestinal tract are very much milder than in the adult, that ulceration is rare, and that when it does occur it is not extensive or deep and seldom goes on to perforation. The spleen is enlarged. The degeneration in the tissues of the heart, kidneys and liver is less frequent and less marked than in the adult. It would seem from this that there was some cause besides the typhoid fever poison operating in the adult to intensify these lesions, or some element of protection for the very young child against the dangerous processes so often prominent in the adult that they have been named as a part of the natural history of the disease. What is this?

Let us proceed a step farther and inquire into the symptoms, to see if they differ also. The statement is frequently made that typhoid fever begins abruptly in very young children, that it is not characterized by the prodromal symptoms found in the adult. My limited experience does not warrant a denial of this statement, but I am led to believe that they do exist and escape notice. It is a characteristic of small children to hide their minor discomforts from fear of the doctor or of confinement to bed. Careful inquiry will often show sickness of some days' continuance, which the parents pronounce sudden. The little ones will keep at their play until their strength gives out. How often do we see this in some of the other diseases! The prodromes of this disease are often neglected by the adult.

The earlier individual symptoms differ but little from those of the adult. There is a wider range of temperature, the marked exacerbations having given origin to the name remittent. But extended observation has shown that this is a characteristic of all fevers occurring in young children. The abdominal symptoms are usually moderate. There is the splenic enlargement, the loss of flesh and strength. There is the bronchitis also. The nervous symptoms, cerebral in character, as a rule intensified by high temperature, are present. There is indolent ulceration of the mouth as in the adult, at times. The importance of observ-

ing this has been pointed out lately. I have seen and noted it in the adult and child. Attention has been called to it as an index of the progress of the intestinal lesions. The statement has been made by good authority that its progress is in keeping with that of the latter lesions. This seemed to be so in an adult case under my care in April last.

As in the adult, we must look at the picture as a whole to arrive at a diagnosis. The eruption, bowel symptoms, visceral symptoms and fever, when combined form a group found in no other disease. To make our diagnosis logical, we must state the differentia. We will exclude remittent fever from the fact that the temperature will not show the same regularity. There will not be the same gastric irritability and there will not be the same remission of symptoms as in remittent fever. There is a constipation in remittent fever which is often difficult to remove, whereas in typhoid the mildest laxatives are often all that are required, and they frequently do more than they are intended to, or in other words, the bowel is liable to be irritable. The eruption offers another point of difference.

We will exclude meningitis by the mild intermittent delirium, the regularity of the pulse and respiration, as compared with the irregular pulse and sighing respiration found in inflammation in the meninges. Then, in the latter disease would be found signs of localized convulsions or paralysis and strabismus. From ileocolitis, at times, there is difficulty in making an exclusion. In a late work by a high authority, this question is dismissed in the following way: That the disease, typhoid, does not often arise in infancy (we want farther light on that subject), and that it is slower in invasion; but unfortunately, the same author remarks in his article on typhoid that a sudden is quite as frequent as an insidious invasion. Surely this does not throw much light on the subject. Again, he names the absence of eruption, but shows also that this symptom is often absent in typhoid. Disinfection of excrement will be in order in severe and protracted cases until the bacteriologist gives us more ready and certain means of diagnosis.

Pleurisy, pneumonia and otitis media may at times simulate this disease. Careful physical examination will solve the problem.

Elsner's preparation of cultures on a proper medium to exclude the coli communis bacillus is complicated and not always successful. Widal's test, the clumping together of the bacilli of a pure culture of the typhoid bacillus in the presence of blood serum drawn from a patient with typhoid, has been shown variable. It served well in a number of cases in which it was used in St. John's Hospital, Brooklyn.

Ehrlich's "diazo-reaction" occurs in the urine in other diseases, and in health at times. It is therefore not positive.

One turns from this question of positive diagnosis with the feeling that the means for arriving at it, at an early period of the disease, are wanting, and is inclined to believe that it eventually, as the diagnosis of diphtheria, must be solved by the bacteriologist.

The duration of the disease in the young child is from eight to fourteen or nineteen days. This is variously stated, but the average duration is shorter than in the adult and the mortality very small. We find therefore, as we proceed, that accompanying lesions are less pronounced and less severe in young children than in the adult, systemic disturbances are milder and less apt to terminate fatally and of much shorter duration. Is it not reasonable to suppose, in the light of these facts, that the later stages of adult typhoid are due to inflammatory and ulcerative lesions in the bowel, and that the degeneration of heart and kidneys is due to nutrition thus interfered with?

The reason for this difference in the character of the intestinal lesions, the reason for their being less marked and less deep, has been stated by some to be the unirritating diet usually taken by the very young. This looks reasonable. And does not this condition of affairs in the intestinal tract offer an explanation of the shorter duration of the disease and the lower death rate? I have been led to believe, for some years, from an experience in hospital and private practice, that the range of temperature in the third and fourth weeks in adult typhoid was due not so much to the typhoid poison *per se* as to the inflamed and ulcerated condition of the intestine. Modern methods of treatment have been directed to these conditions and by some aimed at the bacillus in the intestine, or in other words, antiseptic methods have been employed, and although they may have missed the bacillus typhosus, careful observers have maintained that they have done much toward alleviating the pathologic conditions found in the form of ulcers and general catarrhal enteritis. The course of adult typhoid seems to have been rendered milder at the same time. I have failed to meet an experienced practitioner in late years who does not allow that the classic cases of this disease with their intense intestinal symptoms are rare. Better methods of administering food and more rational medication offer an explanation.

The use of intestinal antiseptics in typhoid has found its able opponents, although one of them allows that there are few symptoms to be dreaded more than diarrhea, "and that cases which are constipated or in which the bowels are regular rarely die." They have maintained, and correctly I think, that it is impossible to attack a bacillus which, like the typhosus, lies buried deeply, by a remedy applied to the surface of the membrane. They have maintained also that no measures have been devised to render the bowel aseptic, forgetting possibly what regulation of diet alone has done toward that end. I have subscribed to the use of this line of remedies on the ground that it meets the pathologic conditions in the intestine, during the progress of which the greatest danger seems to be met in the latter stage of this disease. It may not render the bowel aseptic, but a long line of testimony gives strong ground for the belief that it renders it less septic, and that is frequently as far as the surgeon goes with his treatment of wounds, and he congratulates himself that he has made an advance. He does not fold his hands and desist in the attempt because bacteriologic examination tells him his work is incomplete. As well might we say to the advocates of the Brand treatment alone that it does not remove the element of temperature entirely, and for that reason is useless.

Methods of treatment which receive the support of some of our best observers deserve trial, or at least careful recognition, especially where they are directed to a lesion which is prominent in the cause of death, and most of all when clinical experience seems to point to their efficacy. There is very general agreement as to its use in cases of ordinary enteritis and

colitis. What should be the objection to it in this disease, where the same condition of affairs is presented arising from a different origin? It would seem that the objection arose from a misconception as to the object aimed at. The necessity would appear to exist to remove or disinfect products of inflammation as in the case of any other mucous membrane, and it would be rational to expect the same amelioration of symptoms of constitutional disturbance as follows the use of these agents in inflammation of membranes generally. It has become a well-recognized fact that where the resistance of the tissues has been lowered bacteria otherwise saprophytic become virulent. Such bacteria are found in the intestine. If they are not removed or rendered innocuous it is reasonable to suppose that they will create disturbance, as they do in other membranes under similar conditions. The obstetrician's investigation with regard to the action of the streptococcus in a healthy woman gives a case in point. He exhibits it to us as saprophyte under ordinary circumstances, and as virulent as any special germ when the vitality of the tissues is lowered. This brings us to the point I wish to emphasize, and it is this: In typhoid fever we have presented to us a complex condition.

The different methods of treatment which have been presented to us from time to time appear to reflect this view. The excursions made by the therapeutic pendulum have been large. We have had treatment aimed at temperature, treatment with elimination as its main point, treatment directed to the destruction of the bacillus and the protection of the intestinal tract. They have all had their advocates, armed with temperature charts and histories which, to say the least, have appeared enticing as far as they go.

It is a well-founded principle, however, that in the treatment of disease experience of a small number of cases will not establish a criterion. Experience has taught reliance upon methods established by long and extensive use only.

Let us try to gather together points of common agreement in this department. The necessity for controlling the temperature is one. Of the means to this end, the application of water of variable temperature to the surface of the body or to the intestine by high enemas, has received most favor. The sponging of the surface, the coil, the wet pack, or the systematic cold bath known as the Brand treatment, are the various methods. Whatever objection we may have to offer to the form in which it is applied, I think we will allow that this general principle is the best. There is an additional reason for its use. It acts as a tonic to the nervous system and through the sympathetic favorably affects the general nutrition. The use of antipyretic drugs has its advocates, but it is always accompanied by the warning to watch the heart, showing that there is danger in it. We may say with safety, I think, that for steady and prolonged use water has the most advocates.

There is a general agreement as to diet, that it should be milk or food in the liquid form. That it should be moderate in quantity. That it should not be given too often, that the introduction of one portion of food into the stomach before it has had time to digest a previous may be avoided. The warning is general, that if we do not obey these directions we will produce disorder of the stomach and intestine and aggravate the lesions in the latter. In other words, while all may not advocate the use of so-called intestinal antiseptics, they take all the means in their power, outside of these agents, to put the digestive organs in a position to use their own antiseptics; or, in other words, they allow that the intestine must be guarded.

Then there has been proposed a line of treatment called the eliminative. Although not generally accepted, it has had the effect of calling attention to the excretory functions, to see that they are properly performed.

Then there is the antiseptic treatment. Various drugs have been employed in this line with two avowed ends in view; one of which is the destruction of the bacillus typhosus, and the other the limitation of the ulcerative and inflammatory changes in the intestine. While there is not evidence to support the first claim, the second is rational and has received the support of too many able observers to be gainsaid. They do not render the bowel aseptic, but they appear to render it less septic and control the symptoms in the latter stages. Calomel, salophen, carbonate of guaiacol and the bismuth salts have found favor with me. Turpentine, the time-honored drug, has surely done much for me in cases marked by intestinal involvement as indicated by tympanites, tenderness, and frequent dark and offensive stools accompanied with marked constitutional symptoms.

I have found no drug equal to opium to control marked nervous disturbances, and that statement is backed by the experience of many.

There seems to be a very general consensus of opinion with regard to the use of strychnin to guard the heart's action, *i. e.*, that it holds the first place.

Alcohol in some form is esteemed by many.

The nose, mouth and pharynx should be cleansed carefully and frequently.

The fact that the specific bacillus is present in the urine as well as feces emphasizes the necessity for scrupulous care and disinfection to avoid contagion.

In adult typhoid fever it has been found that the period of greatest danger is during and toward the end of the third week, and that death rarely occurs before the fourteenth day. It has been found that the mortality among adults in this disease is not small. It has been found that, during and after the third week, the changes in the intestinal tract are prominent factors in the disease.

In the case of children, on the other hand, below five years, it has been found that the disease rarely goes beyond the fourteenth or nineteenth day. It has been found that the mortality is very small, that the changes in the intestine are as a rule mild, and the degeneration in the tissues of the heart and kidneys less, showing better nutrition. Also, in the last few years, testimony points to a milder form of the disease in adults, a shorter duration and smaller mortality, and during this period the intestine has received more careful treatment. It is fair to assume, in the light of these facts, that the treatment and result bear a relation one to the other. It seems fair to suggest that the care of the intestinal lesions should play as prominent a part in our treatment as the holding of the temperature within bounds by either the Brand treatment or a modification of it. While the latter will tend to lessen the lowering of the vitality of the tissues, the former will care for and protect the intestinal tract from new invasions and enable it the better to perform its important work.

Appendicitis, like typhoid, is said to be rare at the

two extremes of life. There is a growing belief that the former, like the latter, is due to the invasion of bacteria. The unirritating diet of early childhood has been offered as an explanation for the milder intestinal involvement in typhoid. May not the same explanation hold in the aged who have learned to be cautious in diet, and may it not hold in the case of appendicitis in both? Both extremes of life are subject to febrile and intestinal disturbances. Is it not fair to suppose that the course of the diseases, appendicitis and typhoid, may expend itself with mild manifestations only and go unrecognized, the intestinal tract, better cared for and therefore in better condition, not offering the opportunity for development of the more serious lesions found in these diseases?

The following table is a record of my personal experience in the treatment of typhoid fever:

	Private.	Hospital.	Total.	Deaths.
Under 15 years of age	13	5	18	0
Over 15 years of age	41	20	61	5
Total.	54	25	79	5

Mortality 6.3 per cent.

Youngest child 14 months; next 23 months; between the ages of 2 and 3 years, 2; between the ages of 4 and 5 years, 6; between the ages of 7 and 15 years, 8; between the ages of 15 and 20 years, 17; between the ages of 20 and 30 years, 32; between the ages of 30 and 40 years, 7; between the ages of 40 and 50 years, 5.

249 McDonough Street.

MENINGITIS A COMPLICATION OF MEASLES.

Presented to the Section on Diseases of Children, at the Forty-eighth Annual Meeting of the American Medical Association held at Philadelphia, June 1-4, 1897.

BY THOMAS W. HARVEY, M.D.

ORANGE, N. J.

The relative rareness of this complication is my reason for bringing it to your consideration. I find that very few practitioners have met this condition after measles. The literature of the subject presents few recorded cases and many writers do not mention it as one of the possible complications. Others relegate all forms of meningitis following measles to the tubercular class. There are at least a dozen of the most commonly used authors on general medicine who do not mention this complication of measles (Flint, Aitken, Trouseau, Ringer in Reynolds' System, Bartholow, Watson, Neimeyer, Tanner, Barlow, Wood Struempell, Wood and Fitz).

Of the writers on diseases of children, there are at least twenty who make no mention of such a complication (Conden, Dewees, Ellis, Eustace Smith, Evanson and Maunsell, West, Day, Billard, Stewart, Stevens, Duncan, Donkin, Churchill, Cadet-de-Cassecourt, Bouchut, Ashby and Wright, Tanner, Starr, F. E. Waxham in Keating's Cyclopedia).

Dr. Potts, in the *Jahrb. f. Kinderheilkunde*, 1880, reports 844 cases of measles and no complication of meningitis.

Dr. Chadburne, in *Journal of Obstetrics*, reports 300 cases, no meningitis.

Dr. Bernardy, in *Annals of Gyn. and Ped.*, 1893, reports 160 cases, no meningitis.

J. E. Atkinson, in "Wood's Reference Handbook," makes no mention of meningitis as a complication, except incidentally that convulsions may occur in measles.

Vogel, "Diseases of Children," translated by Raphael, 1870, says "meningitis occurs so rarely as to make doubtful the connection."

Brothers, *Archives of Pediatrics* (U. S.), 1893, mentions one case of fatal meningitis complicating measles.

J. Lewis Smith says, "there are other complications of measles of less frequent occurrence, among which may be mentioned congestion of the brain, with or without serious effusion."

Loomis says, "secondary meningitis not infrequently occurs as a complication of measles. When it does occur, it is developed during the period in which the eruption is disappearing. It is more likely to occur in this disease than in scarlet fever." This last statement certainly does not agree with the experience of most practitioners, and the first statement is not entirely in accord with other writers on this subject.

Meigs and Pepper mention one case of meningitis observed in a series of 314 cases of measles. The patient had fatal cerebral symptoms, just as the rash was disappearing, due either to congestion of the brain or to uremia. On the fifth day he was dull, heavy, apathetic, soon comatose, with irregular convulsions and arms contracted.

Pepper, in "Text-book of Medicine," says "true meningitis is rare; strabismus, tetanus, contractures, cataleptic states and maniacal attacks have been observed.

Thomas, in *Ziemssen's Cyclopedia of Practical Medicine*, vol. ii, p. 97, says, "Measles differs from scarlet fever in this, that affections of other organs not essentially complicated in the process of measles, especially inflammation of important internal organs, of serous membranes and joints, are tolerably rare; yet now and then affections of various kinds occur, especially inflammations during the eruptive stage. They are mostly without influence on the exanthem, but effect alterations in the course of the fever and prevent rapid defervescence of the measles. Conspicuous among the affections of the nervous system are meningitis, meningitis with tetanus and cataleptic rigidity of the limbs, spinal meningitis, hyperemia of the brain, menigo-encephalitis and encephalitis."

Henoch, Sydenham's translation, 1887, says, "The least frequent complications are connected with the nervous system." He mentions a case of a child 3 years old, when, in the middle of the second week after eruption, drowsiness set in suddenly, out of which the child could hardly be aroused. There was rigid contracture of the neck, moderate fever and irregular pulse. The treatment was leeches, ice bag, calomel and mercurial inunction. The patient recovered. He thinks that some of the cases collected by Thomas in Ziemssen were coincidences for which the measles was not to blame. On the other hand, a case or diffuse myelitis published by Barlow ("Med. Chirurgical Transactions," Vol. 70, 1887), which ended fatally on the eleventh day of the measles, was certainly directly due to the disease. This case seems to have become a classic, as it is referred to by many of the French and German writers on the subject; it was characterized by the same muscular rigidity and contractures of the limbs that have been noted by so many observers, and which were present in the case I mention hereinafter.

Rilliet and Barthez mention a case complicating measles, where the symptoms of diffuse myelitis were

present, paraplegia, abolition of patellar reflex, paralysis of bladder and rectum, partial paralysis of the arms, difficulty of speech, asphyxia and death.

Baginsky mentions tetanic contractures of the lower extremities, sopor, strabismus and convulsions as symptoms complicating a case of measles.

H. B. Atkyn, *Medical Times*, 1891, reports a case of measles and catarrhal pneumonia. In the second week there was partial stupor and turning to the right side, paralysis of right eyelid, left arm and leg, anesthesia, contracted pupils, slight elevation of temperature, irregular pulse, Cheyne-Stokes respiration and contractures. There was very gradual improvement and a paralysis lasting six months.

Tobeitz, in the *Jahrb. f. Kinderheilkunde*, 1887, reports a case where a girl 2 years old, at the end of one week showed the following symptoms: Strabismus, loss of memory, paralysis, sleeplessness and delirium; after two months paralysis of the lower extremities with distinct inco-ordination, articulation difficult, tendon and other reflexes normal, pupils normal, temperature always normal, no improvement for four months, when she left the hospital.

Prof. Crozer Griffith, *Archives of Pediatrics*, 1893, reports a case of measles with abnormal symptoms of cerebral irritation. On the seventh day the patient complained of nausea, stiffness and retraction of the neck, severe headache and vomiting, tremor of hands so that he could not hold anything, grinding of teeth, difficult articulation; in a few days tremors over the whole body, including tongue. At the end of three weeks the patient gradually recovered and the temperature during the whole time was subnormal with the exception of one day when it was 38.8 degrees C.

Dr. Buttner of Orange, N. J., in a personal communication, reports the following case: "A German girl, 11 years old, passed through an entirely regular attack of measles and had apparently fully recovered when, on the tenth day after the appearance of the eruption, she had an attack of vomiting which was repeated several times during the next twenty-four hours. At the same time the temperature rose to 103 degrees F. She was very restless and complained of severe frontal headache. From this time until death she was drowsy, answering no questions except on great urging; both pupils had become by this time dilated and she had two convulsions. After the last one her left arm became paralyzed; she also passed the urine involuntary; death came on the sixth day in coma. Postmortem examination showed the dura mater much injected with the sinuses full of coagulated blood; on opening the dura, the convex surfaces of both hemispheres were covered with a yellowish layer of pus and lymph. There was no signs of tuberculosis."

My own patient was a Cuban girl of 10 years, who on the sixth day of her measles developed serious nervous symptoms; she had a low fever, was unconscious for five weeks and had muscular tremors, rigidity and contractures, all of which gradually passed away, ending in complete recovery. The history is as follows:

Miss C. S., Cuban, aged 10 years, has never menstruated; previous health good; parents living and healthy; history of tuberculosis in mother's family, none in her father's.

July 10, 1895, she commenced to have an acute attack of fever with catarrhal symptoms followed by an eruption characteristic of measles.

July 13, with the appearance of the eruption there was a diminution of the fever, so that on July 14 she was very well. On the fifth day (July 15) the rash was beginning to fade, but she had a sharp rise of fever. On that day she still had some catarrhal symptoms and the rash was still well defined. She was very constipated and complained of a severe pain in the back of her neck. A cathartic and a mild febrifuge was ordered.

The sixth day the temperature was normal; the eruption had largely disappeared; the patient was very nervous, restless; complained of the pain in the back of her neck and preferred the room to be dark, although there was no well-marked photophobia. She had entire loss of appetite. The cathartic had not acted and there was marked diminution of the urine.

These symptoms showed little change on the next day except increasing stupor.

July 18, the eighth day, she was unconscious, although she could be aroused and made to answer questions in monosyllables. Her former restlessness and nervousness had disappeared. The axillary temperature was 99 degrees F. The urine gave no indication of kidney insufficiency or congestion. The rash had entirely disappeared, as had also the catarrhal symptoms. The pupils reacted sluggishly to the light, and she would respond to tickling. She lay with her eyes open and vacant or closed and apparently sleeping; she would not voluntarily move a muscle.

From this date, the eighth day, until August 20, *i. e.*, for thirty-three days, she lay entirely unconscious. Her temperature on the afternoon of July 18 rose to 101 degrees F., rectal; from then until August 7, nineteen days, her temperature varied between 97 and 99 degrees F., taken every two hours, in the rectum.

August 7, the afternoon temperature was 100 degrees F.
August 8, morning, 98.4; afternoon, 100.4 degrees.
August 9, morning, 100.4; afternoon, 100.8 degrees.
August 10, morning, 100; afternoon, 103 degrees.
August 11, morning, 99.4; afternoon, 101.2 degrees.
August 12, morning, 98.8; afternoon, 99.6 degrees.
August 13, morning, 98.8; afternoon, 99.6 degrees.

The temperature did not rise again until August 29, the forty-first day, when the afternoon temperature was 100.8 degrees, after which it did not again rise above 99.5 degrees and by September 7, the fiftieth day, was normal all day long. The pulse rarely reached 100 per minute until August 9, when the rise of temperature was accompanied by a rise in the pulse rate. For a few days it was very irregular, varying from 100 to 120 until September 1, when it fell below 100 and subsequently varied from 80 to 90. It was impossible to arouse her during this long period, although it often seemed as if, when she lay with eyes open, coma vigil, there must be a certain amount of intelligence.

During the first two weeks of her unconsciousness there was little emaciation and little change in her muscular system beyond this, that while in the morning she would be relaxed, as the day wore on she would gradually stiffen, so that her limbs were bent with difficulty, her back would be rigid and there would be opisthotonos. She at no time had anything approaching a convulsion, but there were frequent muscular tremors affecting sometimes a part of a muscle, sometimes an entire muscle, and occasionally a group of muscles would twitch

There was complete anesthesia of the skin except in the soles of the feet. She was deaf, and so far as we could tell, blind, although occasionally setting her up in bed or the disturbance necessary to feeding her or changing her clothing, would stimulate her to open her eyes. Light had little effect upon the pupils, but when the hand was brought near the brow she would quickly close her eyes. She passed her urine involuntarily and it was normal in appearance and quantity. Her bowels were moved involuntarily by suppository or enema assisted occasionally by a small dose of calomel. She would not swallow or make any motion to take food and was fed every two hours with five ounces of milk by pouring it spoonful by spoon-

ful into the mouth and stimulating the act of swallowing by pressing on the back of the tongue. In the later stages of the disease, when the patient had well marked trismus for some time, the act of feeding was accomplished with great difficulty.

After August 1, the fourteenth day, she began to emaciate very rapidly and contractures took place in many groups of muscles, beginning in the left arm, which was held in a position of over-extension and extreme pronation; the elbow could be bent only with the greatest difficulty.

Trismus and opisthotonos became more marked, the legs were gradually drawn up to the body and resisted all but the strongest efforts to straighten the knees, the hip joints never quite yielded to the efforts to straighten the thighs. Such attempts to straighten the limbs caused an expression of pain to pass over the patient's face and were evidently felt. The right arm did not become so completely rigid as the left. When the temperature dropped on the thirty-third day the patient became brighter, she would follow a movement with the eyes a little and would lie with her eyes open longer at a time.

From the thirty-sixth to the forty-third day there was again a slight rise of temperature for a few days; during this time she became brighter every day. She began to talk on the thirty-seventh day, at first only in monosyllables. On the forty-second day she put a sentence together. At this time she became very much excited, singing and chattering continually. After September 1 she calmed down and gradually began to recognize her friends and to call them by name, but she did not swallow of her own accord nor did she recognize the calls to urination and defecation until September 7.

The muscular rigidity and contractures passed off in the order in which they had come on. First, she began to move the head, then the neck, the right arm, the left and later the legs. It was several weeks before the muscular symptoms entirely disappeared.

As to the treatment: At first leeches and blisters were placed behind the ears and on the back of the neck. On July 19 the iodid of potassium was administered, beginning with five grains every two hours, increasing the dose gradually until July 31, when she was taking 25 grains every two hours or 300 grains a day. As symptoms of iodism began to present themselves the dose was rapidly decreased to 120 grains per day and the tinct. digitalis 2 minims every four hours, given with the iodid. Strychnin was given for about one week, but was stopped as the tetanic symptoms seemed to increase. August 20 the sodium iodid was substituted for the potassium, and strophanthus for digitalis. The iodid was given in 20 grain doses three times a day, with the addition of 2 minims of the strophanthus.

The question of diagnosis in this case was one not easily answered by those who saw the case regularly or who saw it in consultation occasionally. As the meningeal symptoms became more marked, the low and often subnormal temperature suggested tubercular meningitis, particularly because the attack followed measles.

The complete recovery without any permanent paralytic symptoms contradicts such a theory. The muscular tremors, tetanic symptoms, the contractures, the unconsciousness and the irregular fever are similar to the symptoms noted by other observers and justified us in considering the case as one of cerebro-spinal meningitis.

HYSTERIA IN CHILDREN.

Presented to the Section on Diseases of Children, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1–4, 1897.

BY CHARLES W. BURR, M.D.

PHILADELPHIA, PA.

The time is so short and the program so full of more important matter that I shall detain you but a little and, not attempting to be at all exhaustive, will simply sketch the histories of a few cases. This is my only excuse for offering a paper purely clinical and of value only in recalling to you the fact that hysteria is not a disease of women or adults alone, but may occur at any age and in either sex.

The first patient had pseudo-Pott's disease. She was 9 years of age, with nothing significant in her previous personal or family history. For some time before I saw her she had complained of pain along the spine, worse in shifting spots, coming on in attacks, and sometimes so severe as to cause long continued spells of weeping. The spine became slightly curved laterally and she walked with a limp and complained of great weakness in the legs at times. On examination she was found to be a fairly well nourished but distinctly neurotic child. There was apparently severe pain on light pressure over the spine, the point of greatest pain varying greatly from time to time, but if the pressure was increased, and at the same time the child's attention attracted to something else, all signs of pain disappeared. There was slight apparent lateral curvature, but it was only apparent, not real, due to attitude and nothing more. There was no rigidity of the muscles of the back either at rest or during movement. She walked with a slight limp and complained that her legs were weak and painful, but she rose from the ground without difficulty. The knee-jerks were normal. There was no anesthesia, no muscular wasting, no palsy of the bladder or rectum. Temperature remained normal. Vision was good and there was neither contraction nor reversal of the fields of vision. In this case the mimicry of caries of the spine by hysteria was so superficial that diagnosis was not difficult. Separation of the child from her family, strict confinement in bed and hospital control soon cured the attack.

Another child, A. B., female, 10 years old, had never had any serious illness, but had always been nervous, supersensitive and mentally too active. In January, 1894, she had an attack of influenza, from which she recovered completely, but during convalescence a hard, barking cough began. After a few days, the cough continuing and no fever having developed, she suddenly became delirious, saw visions of ugly men whom she talked to and about, showed horror and fear, seemed not to know her parents and became very dramatic. The attack lasted for several hours and recurred several times during the next two weeks. She was then brought to me and examination revealed the following condition: She was a healthy-looking, well developed child. Every few moments there was a long deep inspiration followed by a sudden explosive expiration, which by some use of the imagination might have been said to have resembled a bark. If the attention were occupied it ceased, but only for a time. It was not willed. It ceased during sleep, but often prevented sleep for hours. There were also irregular, choreiform, half purposive shrugging movements of the shoulders, and the facial muscles of expression were in constant action. The heart

and lungs were normal and the general nutrition good. The fields of vision were normal, the reflexes present and there was no anesthesia. Under treatment she soon recovered.

A girl 11 years of age presented an interesting combination of hysteria and organic joint disease. During convalescence from typhoid fever and after the temperature had permanently fallen to the normal, she began to complain of pain in both hips. Soon she ceased to move the legs and they became rigidly flexed upon the abdomen. On examination I found a stout, well nourished, bright and too sedate child. She was bedridden. The legs were flexed upon the thighs, the thighs upon the abdomen, and the knees pressed strongly against each other. No force permissible could overcome the contractures. All attempts at passive movement caused extreme pain. The patient could not move the legs at all. Sensation was normal. There was no atrophy. The knee-jerks could not be obtained, probably not because they were absent but on account of the contractures. There was no palsy of the bladder or rectum and no change in the fields of vision. Under ether all the contractures except that of the right hip relaxed, returning, however, with returning consciousness. It had been a question whether there was distinct organic joint disease, or whether it was all hysteria, or a mixture of both. The result solved the problem. All the contractures save that of the right hip rapidly passed away, and careful surgical examination proved there the existence of organic trouble. Doubtless this organic disease acted as an unconscious suggestion and so caused the hysteric outbreak.

Another case of hysteric contracture occurred in a girl 7 years of age. She has always been neurotic, selfish and unmanageable, and is the daughter of an hysteric mother and an overworked and unsuccessful father. One day, after a scolding, she said she could not walk because she could not put the right foot to the ground, but only the toes. The scared mother thought of course of palsy and petted where she had before abused, and the trouble became still worse. I saw the child a few days later. There was marked, apparent spasmodic clubfoot. She stood upon the toes and outer side of the right foot, the heel being drawn up from the ground and the muscles of the calf in rigid spasm. There were no other physical signs. Hysteria alone explains the case. No organic disease can cause a sudden clubfoot, without palsy, increased reflexes, muscular wasting, change in the electric reactions or alterations of sensibility. Medical neglect cured the patient in a few days.

More serious than any of the above is a case now under observation in which the question, still unsolved, is whether there is hysteria alone or complicating a tumor of the brain. A girl, 10 years old, several months ago had some acute fever from which she recovered in a few weeks. A short time afterward she began to complain of severe diffuse headache, constant and preventing sleep, and attacks of vomiting immediately or almost immediately after eating. A few weeks ago she suddenly became violent, seemed to have visual hallucinations, talked about seeing people and about men trying to murder her. The attack lasted a day and has not recurred. Later she began to stagger in walking, said her legs were weak, and finally could not walk at all. The amount of weakness in the legs has varied greatly, she sometimes being able to walk. On examination I found a well nourished, bright child. While in bed she could move the legs well, without palsy and without ataxia, but as soon as she attempted to stand both appeared. The knee-jerks were normal. There was neither wasting nor anesthesia. The bladder and rectum were under complete control. Examination of the thoracic and abdominal organs was negative. The urine contained neither albumin, sugar nor casts. After sending her to the hospital, headache and vomiting ceased almost immediately and in a few days she could walk some, though she still staggered very much and could not stand at all with the feet close together. The palsy and ataxia varied much from day to day. This complex of symptoms might be hysteric, but ophthalmoscopic examination showed suspicious signs of a beginning optic neuritis, and a cerebellar tumor would also explain the case. The diagnosis must await events.

These cases, all too hastily sketched and leaving much of importance undescribed, are of interest as examples of hysteria in childhood. They show well the power of acute organic nervous or non-nervous disease in precipitating an hysteric outburst and the occasional impossibility of differential diagnosis between organic brain disease and hysteria. They illustrate the power of treatment, a subject too well known to need detailed attention. I have used the word cure several times. I wish it to be understood to refer only to the specific attack and not to the inherited predisposition. We usually cure not the hysteria but the attack. Hysteria in children, even when apparently transient and trifling, is in reality very serious, for it signifies inherent and often inherited nervous instability. These children need not only treatment for the attack, but most careful education of the will and the emotions, to save them in the future from suffering from hysteria.

SOME CAUSES OF CONGENITAL DEFORMITIES.

Presented to the Section on Diseases of Children, at the Forty-eighth Annual Meeting of the American Medical Association at Philadelphia, Pa., June 1-4, 1897.

BY ELLA E. BARNES, M.D.

BIRMINGHAM, ALA.

"As pliant twig by fair and careful bending,
In perfect trunk of future tree will show,
So in this life of Fate's mysterious sending,
Our ends by our beginnings we shall know."

More attention is given each year to preventive measures against disease, and we who stand on the watch-towers guarding humanity, have a right to inquire into the origin of these little charges; we are allowed to "go behind the boards" and investigate the cause of the defects.

We find anomalies much less frequent in animals than in man, and less common in the negro race than in the white.

There is a vast amount of superstitious material concerning maternal impressions. Here are specimens of such "old folk lore." One woman, two and a half months pregnant, goes to the kitchen, and in searching for a match in the darkness, puts her hand on a fish that her husband has brought home for breakfast. When her babe comes it is afflicted with ichthyosis. Another is terrified by a man in a state of inebriety staggering into her room, with the result of an idiotic offspring. Another attends the circus and menagerie with an alleged result of a dog-faced

babe. Still another goes down cellar and steps on a toad and faints at the revolting sensation, followed by birth of an anencephalia.

All of these deviations from the normal can be accounted for from anatomic disturbances. Lebadeff ascribes this latter, the toad-like head, to an abnormally sharp cranial flexure in the embryo, else the head fold of the amnion is retarded in development, thus closing the upper part of the medullary canal. This easily explains the absence of brain, also causes cyclopia or synophthalmia.

The evolution of the human organism from the ovum, set into activity by impregnation, its segmentation both lateral and central, is acceded. The environments play only a secondary part in the special direction in which the development is to take place, but if these are abnormal or adverse, various perversions occur.

Conformation of figure and of feature is inherent and inherited properties of the primordial cell. This I do not discuss.

The gross anomalies are usually from external causes. The earlier the injury, the greater the result. This is clear to any one, for the loss of a few cells in the earlier stages of growth may ultimate in the absence of an entire limb or organ, while at a subsequent period, after the general form is rounded out, the same loss would pass unobserved or be repaired by nature or the multiplication of cells. Let the first three months of fetal life be undisturbed and the perfection of the coming entity is almost assured. Ziegler says: "Later disturbances give rise rather to changes that manifest themselves after birth as congental *disorders*, and are therefore more fitly regarded as anatomic bases of fetal *diseases* than true malformations."

The literature on this subject is prolix. Great men have discussed, experimented and wrote upon these causes, assigning injury and diseases of the uterus, membranes and placenta, small amount of amniotic fluid, hemorrhages in the membranes, separation of the membranes and other various causes; but some of the *causes* of these conditions and arrested or perverted development are what I propose to investigate.

Hasty conclusions are not ideal ones. It is only by long observation and close study of a subject that any result deserves respect.

In my student life in 1892, I began my observation on this line. The first case was an illegitimate birth in the Lying-in Charities. The child was still-born, but was greatly deformed in the lower extremities. I questioned the young mother and she admitted having made every effort to bring on abortion by the use of various advertised drugs and the attempted use of a piece of corset steel, producing hemorrhages but no radical results, she continuing till her full term.

Another case, Mrs. A.'s child, at birth had one hand web-fingered, a strip of membrane binding them together. This was easily remedied by a trivial severance and proper surgical dressings, but the *cause*, to my mind, was revealed later, when she told me that between the second and third months of her pregnancy, she obtained a uterine sound and inserted it, twisting it around, causing a slight flow for a day. This undoubtedly entangled the amnion about the digits of one extremity, causing an adherence of the membranes.

The last case was and is more serious. Mrs. M. sent for me to consult about something that was troubling her exceedingly. She was three and one-half months pregnant, was in bed and had a slight hemorrhage. She unfolded a bit of paper and showed me a fleshy formation which had separations at the edge, was not larger than a bean and had passed the night before. I was convinced that it was an extremity, either a hand or foot. I asked for a true history of the case and she said that about two weeks previously she had inserted a crochet-hook but produced no results till the night before, when she passed some clots and this specimen. The instrument was a hard polished wooden rod, with a crochet-hook end, such as rugs are crocheted with. I had grave misgivings but hoped nature in a mysterious way might repair the damage. She flowed no more, and completed the gestation. On the birth of the child it had a handless right arm, and she is now in our fair southern city an evidence of a crime that most women do not appreciate.

While Jenner, Lister, Hunter, Morton and Long electrify the world by its discoveries to prevent disease or ameliorate suffering, it remains for us by persistent effort to teach womanhood the full extent of this awful crime against humanity by these efforts to prevent the consummation of conception.

DISCUSSION.

Dr. BEDFORD BROWN of Alexandria, Va.—To arrive at any clear comprehension of the nature of the causes of congenital deformity, we must trace back those causes to the origin of man, to be found in the union of the male spermatozoon and the female ovule, and the processes of protoplastic formation and cell growth evolved by the vitalizing influence of this union. Practically, it may be accepted as a fact that the healthy evolution of the fetus requires the union of a perfect ovule and an equally perfect spermatozoon. And, on the contrary, that a defective ovule and spermatozoon, though capable of fructification and to a certain extent development of a living being, that living being will be defective in some of its parts.

Hence, in tracing the causes of congenital deformities, one must go back to prime causes as well as intermediate causes. What is here understood as prime causes are certain defects seated in either the spermatozoon or ovule, one or the other, or both. What is meant by intermediate causes are such changes as may occur during gestation impairing the growth of certain parts of the fetus.

In regard to the real nature of the primary causes, no one with our present knowledge can determine with any degree of accuracy, as we are not informed of the physiologic process in operation after the union of the male and female products. All we can say is that after this union takes place, then fructification results, and this means the development of protoplasm and the beginning of cell growth, and whatever arrests or impairs protoplasmic formation and cell growth will cause fetal deformity.

This law, I think, holds good both in ovule and spermatozoa, and in the intermediate growth and development of the fetus *in utero*. Thus, whatever influence will impair the formation of protoplasm or cell growth, as alcohol, injury, infectious disease, or inability of the mother to perfect fetal development, will produce this result. Great mental or physical shock, excessive alarm or fright, or physical injury of the mother would, during the earlier months of gestation, seem to be capable of impairing the nutrition of the fetus in a degree to cause deformity. Thus the interruption of the fructification and growth of an artery in the process of fetal development will suspend the development of the organ intended to be supplied by that artery, and we have either a partial formation or absence of the organ, known as congenital deformity.

An instance occurred in my experience in which a woman in three consecutive labors had a completely adherent placenta, and in every case the child born proved to be idiotic and deformed in some of its limbs. Subsequently she gave birth to two children without the adherent placenta, and both of these children were perfect in mind and body. I regard the history of this interesting case as positive evidence of interrupted or obstructed circulation and impaired nutrition of the fetus as the intermediate cause of the congenital deformities.

We come now to the consideration of some of those influ-

ences which impair the vital organization of the spermatozoa and the ovule, and which become primary causes of congenital deformity. This is a very intricate question, but one not incapable of solution.

Alcoholism, or habitual intemperance, rank first among the deleterious influences which effect the vital endowments of the original germs. You will find congenital deformity nowhere so common or existing in such hideous forms as among the habitually intemperate and degraded of the world's population. The effects of the constant saturation of the system with alcohol must tend to impair the vital organization of the spermatozoa and ovule, as it does any other organ of the body. On the other hand, habitual intemperance on the part of the female when pregnant must tend to impair the development of the fetus *in utero* by impairing cell growth. Again, we see children born of perfectly temperate parents, with congenital deformities. In a family of five children, born of temperate parents, all were defective in a more or less degree. The maternal grandfather was an habitual drunkard. The father, an intelligent man, was an eight month child and very delicate until nearly maturity. The mother was a feeble, delicate woman who was never capable of nourishing the fetus *in utero* in a proper manner. The causes of deformity in this case were probably both primary and intermediate in character, and were due to hereditary influences descending from the grandfather and inability on the part of the mother to sustain the nutrition of the fetus.

Heredity must unquestionably be classed among the chief causes of congenital deformity. We are capable of inheriting the abnormal as well as the normal traits of mind and body of our ancestry. Hereditary tendencies of this kind must be transmitted through impressions made either on the ovule or spermatozoa and impressions made upon these by hereditary influences must be of a permanent character and affect, in a positive manner, the growth and evolution of the fetus. Hence, heredity becomes one of the most important factors known for the transmission and perpetuation of mental and physical types both normal and abnormal.

Where the starting point of these hereditary tendencies in families begins is a difficult matter to determine. The tendency may date its origin, in many generations, back to the sins of an ancestor. He may have been a drunkard and impressed upon his offspring tendencies which through generations became fixed hereditary traits to be transmitted to all posterity. In such families bearing the burden of hereditary defects we see congenital deformities of the brain cropping out in successive generations, the origin of the hereditary tendency to which extends so far back that no man knows the origin, and it may skip one generation and appear in another. In these same families there will appear physical deformities otherwise. In a family of my acquaintance there has been for generations, deformities of the internal ear and deafness. Then again, these hereditary tendencies disappear suddenly by intermarriage with healthy individuals.

Of the millions, hundreds of millions, and billions of infants born, it is a most wonderful circumstance that of these vast numbers, so few cases of congenital deformity occur. In my own professional experience, extending now over forty years, of three thousand cases of delivery, the cases of deformity have not exceeded thirty, of all grades.

Consanguineous marriages and incestuous connections must be admitted as important causes of congenital deformity. In a single case of the intermarriage of first cousins, to my knowledge there resulted ten births. Of these, three sons were idiotic and otherwise defective, and one was insane. Of the daughters, all married and all were sterile. In another family, the marriage of first cousins, there resulted six births. Of these, four were idiotic and deformed.

An interesting case of incestuous connection came under my observation many years ago. This incestuous connection between a father and daughter had been maintained for many years. The father was a robust widower and the daughter a buxom young single woman. They resided in a remote section of the country. From this connection there resulted five births. Each child was not only idiotic but also otherwise deformed. In one there was wanting a forearm, in another a foot. In two there was absence of all the fingers, and in the fifth the eyes were merely rudimentary with complete absence of vision. I had a good opportunity of observing this afflicted family while inmates of an almshouse, and they were free to confess their unnatural alliance. Here was an undoubted case of incestuous connection between father and daughter lasting for many years, the product of which was five idiotic and deformed children, while the parents presented an appearance of fairly robust health. It would seem that nature abhors such transgressions of the moral law and rebels against them in the most hideous and revolting forms possible for her to assume.

In summing up the remote and direct causes of congenital deformity, their nature and action, I think that the immediate or direct cause of congenital deformity may be in every instance attributable to defects of nutrition of the fetus. The remote causes producing these defects of nutrition may be varied, often widely in character, and even of an entirely opposite character. Thus, as has been attempted to be shown in the course of this paper, the various causes primary and intermediate are due to such influences as alcohol, shock, infectious disease, injury, fright, consanguineous marriage, incestuous connection, all of a widely different character. The tendency of all these is to obstruct nutrition of the fetus by impairing the process of cell growth and formation of protoplasm somewhere in the process of gestation, either in the original germ or during the growth of the fetus.

A RARE CASE OF CIRCUMSCRIBED TRAUMATIC ANEURYSM OF THE RIGHT INTERNAL CAROTID ARTERY WITHIN THE CRANIUM, WITH RECOVERY AFTER OPERATION.

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CHICAGO.

A Chinaman, Chan Ling, aged 36 years, was referred to me as a private patient Feb. 12, 1897, with the following history: About eighteen months before (September, 1895) he had been felled to the sidewalk by a shoulder blow, striking on the occiput. He got up at once and walked home, a distance of one block and laid down for about ten minutes. During this time he says his head "awful hurt." There was no history of unconsciousness nor bleeding from nose, mouth or ears; no ecchymosis of eyelids or conjunctivæ. The day following the fall he felt well and went to his work as usual and continued at it for seven months, apparently unhurt, save one exception, which he failed to mention until after its discovery by myself on examination. At this period, he states, both eyes began to redden, the right one becoming worse in this respect, and in a few days' time he noticed that the right eyeball began to bulge forward. The redness and exophthalmos of the right eye steadily increased until the time he was referred to me, and hence had existed during a period of ten to eleven months.

At the time I first saw him (Feb. 12, 1897) there was an exophthalmos of the right eyeball of one-quarter of an inch, together with *great* enlargement and tortuosity of the palpebral, conjunctival, subconjunctival and anterior ciliary veins of this eye, but no pulsation in any of the vessels mentioned; no pulsations were felt on light palpation with the finger tips on this eyeball. The latter could be pressed slightly backward into the orbit. The tension was normal. The superficial arteries were of normal size and there was no visible evidence of inflammation of any of the tissues of either eye. The motility of the right eyeball was perfect, excepting in an outward direction, and in attempts at abduction it halted at a point slightly beyond the mid-direction. The right pupil was of three millimeters diameter and below normal in its reflexes. With the ophthalmoscope the media were found to be clear and the retinal veins were *considerably* enlarged and tortuous, but without pulsation. The arteries were of normal size and course. Both kinds of vessels, especially on the surface of the disk, had white lines along their walls,

perivasculitis, so-called. The disk, retina and choroid were normal in appearance. The veins of the left eye tissues were somewhat enlarged throughout, but otherwise nothing was perceptibly wrong. Sensation in the right cornea was below that of the left. The visual fields were alike and normal. The acuity of vision was slightly greater in the left than in the right eye, but the type-test developed $\frac{20}{30}$ only in each eye and he could decipher the smallest types of Snellen (D=0.6) with either eye, but slightly clearer with the left. With a test-object carried into the extreme right field was no present diplopia, though the right eye failed to follow its fellow in this movement. He had become accustomed to the false image of the right eye and ignored it.

On placing the cup of a stethoscope over the closed right eyelids a loud blowing bruit or murmur was heard synchronous with the heart's beat and an intermittency of the heart's pulsations of six to eight times per minute was readily discovered. Slightly less loud the same conditions were found with the stethoscope over the right temporal region. Still less so the *bruit* could be heard in the left temporal region. In all positions of the stethoscope the aneurysmal sound was greatly increased by the patient stooping forward. *It completely disappeared on digital compression of the right common carotid artery in the neck.*

Up to this point of the examination the patient had not mentioned hearing any noises in his head and when asked if he did so he said, "Yes, kiki-kiki," trying to imitate the noise he heard and pointing his finger to his head. On further questioning he inferred that the noise was a source of great annoyance and alarm to him; that it had started very gradually six or seven days after the fall on the sidewalk and that it had got steadily louder up to the present time, but that it did not interfere with his sleeping.

To epitomize the history and present condition: We had a shoulder blow followed by a fall on the sidewalk, striking the occiput, almost immediate temporary head-pain, followed in about a week by a head-bruit, and after seven months a steadily progressive vascular obstruction and protrusion of the right eyeball. The intravascular murmur also increasing in loudness synchronous with the intermittent heart's beat, heard best over the right eyeball; stopped entirely by complete compression of the right common carotid trunk. Nothing but an aneurysm of a branch continuing the right common carotid within the skull could explain or cover the symptoms. I decided that the injured artery within the cranium was the right internal carotid where it rests its "S"-shaped form on the side of the body of the sphenoid between the layers of the dura mater and in the immediate proximity of the large cavernous sinus, compressing the latter and preventing the return of the venous blood from the right orbital contents, not affecting the arterial supply of the orbit, because the blood stream to the right ophthalmic artery was not interfered with; compressing the right sixth nerve trunk where it runs just to the outer side of the artery at the position of injury indicated, thus causing a paresis of the right external rectus muscle present in our patient; also compressing but more lightly, because further to the outside of the artery, the ophthalmic division of the fifth cranial nerve, thus accounting for the slight anæsthesia of the right cornea.

That it was a rare example of an aneurysm of the right internal carotid alone, I believed, because our case was free from a pulsating exophthalmos. That it was due to an injury of slight extent to the walls of the artery near the apex of the right petrous bone, followed by an aneurysmal swelling I decided again, because had the patient received a severe fracture of the base of the skull, either in the anterior or middle fossæ of the skull, he would have had present either intra-orbital, intra-nasal, external auditory, or throat hemorrhage, respectively, according to the location of the fracture of the base.

I believed there had been a slight fracture in the right middle fossa by *contrecoup* and the only feasible location of it, to me, was around the sharp *spicula* at the apex of the petrous portion of the right temporal bone.

That the injury to the coats of the artery was not penetrating, but only partial to the outer wall—a progressive aneurysmal enlargement at its site following, and that the latter beautifully accounted for every symptom of the case.

At my clinic at Rush Medical College, Feb. 24, 1897, I presented this case to the class and gave the foregoing history and my conclusions as herein stated, and that the only hope of cure consisted in ligation of the right common carotid artery in the neck. Lest I had erred and that a syphiloma of the base was present I had placed my patient on large doses of iodid of potassium, and these he took for a period of over six weeks without any change for the better in his condition. The indication for treatment was then fully cleared.

The case was admitted to the Presbyterian Hospital, in the service of Prof. Nicholas Senn, April 12. He agreed with me fully in my diagnosis and three days later (April 15, 1897) he tied, with two ligatures half an inch apart, the right common carotid artery in the neck.

The immediate result of the operation was a complete stoppage of the bruit. The following day the patient complained of slight pain in and around the right orbit. Pulse 72; temperature 98. *The exophthalmos was one-half greater* ($\frac{3}{8}$ *inch*) *than before the operation,* besides some conjunctival chemosis, with great enlargement of the veins of the region.

Four days after operation the exophthalmos had further greatly increased ($\frac{5}{8}$ *inch*) with the lower ocular conjunctiva extending between the swollen eyelids as a thick fleshy fold. No pain, no fever, pulse low. This condition lasted some time, and gradually disappeared, so that *by May 20 the exophthalmos was greatly reduced.* The edematous conjunctival fold still remained, but of lessened thickness, size and of lighter color, but yet protruding through the palpebral fissure; no subjective symptoms; no *bruit.* As yet he had not been out of the hospital. *May 30,* whilst still a resident of the hospital, he called at my office and I made the following notes: Right eye, V = $\frac{20}{30}$; conjunctival edema of fold of four millimeters wide in center extending beyond margin of lower eyelid and reaching from one canthus to the other. *There is now a marked internal deviation of this eye, with complete loss of motion outward, indicating a complete paralysis of the right sixth cranial nerve.* Motility in other directions perfectly normal. *There was still an exophthalmos of the right eye of about one-eighth of an inch,* half the original amount, and only one-fifth that of the greatest amount following the operation. The external ocular as well as the retinal veins were of greatly reduced size, but yet

larger than those of the left eyeball; no *bruit*. *The vision of the left eye had improved one-third since the operation and was now normal, or* $\frac{20}{20}$. The fold of edematous conjunctiva was now replaced within the eyelids and the latter slightly compressed with strips of plaster to aid the removal of the exudate.

June 13. Exophthalmos of right eye still further reduced one-half—now $\frac{1}{16}$ inch. Still complete paralysis of the right externus muscle. Right retinal veins still larger than in left eye, no white lines along their walls now. No evidence of fundus disease. Conjunctival edema about gone. He was discharged from the hospital *June 19*, two calendar months after the operation. *On removing the dressing from the right eye the patient—to avoid diplopia—turned his head toward the right shoulder, and so favored the paralyzed right externus.*

June 30. Exophthalmos of right eye about gone. Fundus of each eye alike and normal. The patient had been told to cover the left eye and practice the right alone and particularly try to move the eye by looking at objects in the right field and by this time there is a slight voluntary movement of this eye toward the mid-line of the eyelid. *Diplopia still his constant and only complaint.*

July 25. Without noticing further increase of motion in the right eyeball outward since last noted, and the diplopia still distressing him, I decided to try the local use of electricity and applied a galvanic current, strong enough to produce occasional phosphenes, and for two or three minutes duration. This was followed by a faradic current producing muscular contractions and for a similar period of time. The sittings were repeated every two days and soon improvement became marked, so that by *August 23 only occasional diplopia was complained of and the head had assumed an almost correct position with the body.*

August 25. No more double vision on ordinary eye-use noticed since last note, yet the right eyeball fails to move outwardly as far as the left one on extreme effort by a distance of three millimeters. I thought that the right retina had probably become accustomed to the false image, if present, and ignored it, so I tested him at five meters distance and found no diplopia with eyes uncovered (candle light and Dr. J. F. Herbert's screens used). With a prism 6 degrees base up before the right eye diplopia was produced and showed a condition of esophoria up to 7 degrees, succeeded by a reduction to orthophoria, with an occasional lapse to up to 4 to 7 degrees of esophoria to be again followed by orthophoria—the patient's head being correctly adjusted during the test. *Therefore for ordinary uses of forward vision our patient had regained binocular single vision.* The vision of this right eye had sunk to $\frac{20}{40}$, whereas that of the left remained $\frac{20}{20}$. With either eye alone he spells D=0.6 of Snellen up to $7\frac{1}{4}$ inches, thus showing a normal amplitude of accommodation for his age (36) of 5.5 D. The distant vision of the right eye could not be improved with any glass and both eyes rejecting the weakest plus spherical lens I decided the case to be an emmetrope. *The position of the two eyes is now alike, as is also the appearance of the extra- and intra-ocular details.*

The only remaining evidences of a pathologic condition are a slight and possibly wholly removable paresis of the right externus muscle;[1] together with an amblyopia of the right eyeball, probably permanent and due to pressure atrophy of some of the fibers of the optic nerve; yet, again, this eye may have been possessed of a congenital amblyopia of the amount present. The patient now has no complaints whatever.

16 Laflin Street.

[1] Six weeks later orthophoria at 5 meters was the constant condition, and the right externus muscle had gained still more, so that on extreme abduction this eyeball fell short of its fellow only 1.5 millimeters.

HYPERPLASTIC SUBCONJUNCTIVITIS.

Presented to the Section on Ophthalmology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY H. McI. MORTON, M.S., M.D.
MINNEAPOLIS, MINN.

As a contribution to a rare condition, I desire to present the following cases:

Case 1.—A. V., white, age 35 years. The man, a tobacconist by occupation, consulted me on July 23, 1894. Until two weeks previous to this time, he had had no ocular trouble. On July 9, while riding a bicycle, he fell and was thrown into a bush by the wayside. He realized immediately that a foreign body had entered his left eye, which at once began to swell. This swelling continued so rapidly that in two days he noticed a large fleshy mass protruding from the swollen lids. He consulted his family physician, who, finding the usual antiphlogistic measures of no avail, brought him to my office, two weeks after the date of the accident. Inspection revealed great infiltration of both upper and lower palpebræ. In both lids existed an external wound, each of which communicated with a cavity formed by the breaking down of the cellular structure of the subcutaneous tissue of the lids, and from which there was a free discharge of pus. These cavities did not communicate with the conjunctival cul-de-sac. From out of the interpalpebral tissue projected a red tumor mass. It sprang from the inner surface of the lower lid and bulbar conjunctiva, involving in fact the entire lower cul-de-sac, up to within 1 mm. of the corneal limbus, and extended from the outer to the inner canthus. It resembled a large granuloma, was firm in consistency and shiny. There existed a marked infiltration of conjunctiva at the fornix of the upper lid, and associated with much chemosis of the upper bulbar conjunctiva. The cornea was transparent. The iris was of proper color and pattern, the pupil normal in size and, in both direct and consensual reaction. The patient had not suffered any pain. He was admitted to the hospital, where, after two days preparatory treatment, was chloroformed, the openings in the lids enlarged, some pieces of wood and bark removed, and the wounds thoroughly cleansed. The tumor mass was incised freely in several places from canthus to canthus. It was of very dense structure, seemingly almost cartilaginous. An antiseptic dressing with pressure bandage was applied. By this treatment I thought it possible a retrogressive process might be started, which with the relief following the removal of the foreign bodies, might make more radical measures unnecessary. The next day the bandage and dressings were dispensed with and cold compresses were ordered, alternating every fifteen minutes, day and night. Boracic solution was instilled hourly and atropin twice daily. After two weeks the phlegmonous state of the lids entirely subsided, but the tumor mass had increased. Although I feared a malignant growth, no recourse remained but the enucleation of the tumor. Under chloroform the tumor was dissected out. It was firmly adherent to the anterior, and extending beneath, was also adhered to the lower part of the globe. There was a firmly adherent projection of the mass to the upper palpebral conjunctiva, beginning 5 mm. from and extending to the inner angle. After the removal of the tumor there existed a practical denudation of the entire lower cul-de-sac. To avoid the serious results following adhesion of the raw surfaces, I transplanted from the left arm a large skin graft, completely covering the raw surfaces of the globe and lid. This took excellently and left a freely movable globe. There existed an almost complete ptosis of the upper lid due to the injury sustained by the levator at the time of accident and on October 5, I performed Pannas' operation for its relief.

Macroscopic examination of the tumor showed the upper third to be of a granular consistency which, lower assumed a dense and elastic nature and terminated in stringy nodules. It weighed about two drachms, was 2.5 cm. long and 1.5 cm. broad and 1.5 cm. thick.

Microscopic examination, which was made by my friend, Dr. J. Clark Stewart, was as follows: "From the section studied I should think, the tissue was simply hyperplastic.

There does not appear to be any tumor proper, but an infiltration of the normal tissues with round cells. Of course it may be small round-celled sarcoma, but I should say not. I should consider it non-malignant so far as the microscope can say." The photograph shows the patient at the time of operation. It has now been three years and the patient has had no trouble with his eye.

Case 2.—S. H., white, age 8 years; boy referred to me by Dr. N. M. Black, May 12, 1896, with no history of ocular trouble until three months ago. At this time his father informs me, his eyes were inflamed, but did not cause him any great amount of inconvenience. Two weeks ago his family noticed a growth projecting from between the lids. This has grown to its present proportion in this short time. It now extends from canthus to canthus of the left eye and is as large as my little finger. As its attachment was along a narrow line of lower lid it was easily removed without loss of much conjunctiva, after which the edges of the conjunctiva were approximated by silk sutures. The case made a rapid recovery. There was no history of traumatism in this case; no disease, as granulation, was found to exist. The tissue proved a simple hyperplasia of the subconjunctival elements. I regret that the photograph taken of this case proved a failure.

Case 3.—Miss K. M., aged 17 years. This case presented itself at my office, May, 1896, to consult me in regard to the disfigurement due to an immensely hypertrophied plica semilunaris in the right eye. There is no history of trauma and the eyes have never been inflamed. The conjunctivæ are normal, and the only defect in either eye is this large mass which extends to within 1 mm. of the inner corneal limbus and is very thick. She insists that two years ago the eye was the same as her left eye, which is normal. I did not see the case subsequently.

The last case was rather an atypical picture, but cases 1 and 2 present a typical picture of a very unusual disease. I can find no mention in literature of this condition, except in the work of Berry, who has, accompanying a few lines upon this subject, a most excellent colored illustration. In case 1 the origin was clearly traumatic. In the second case, no such cause can be directly assigned, but as the patient lived upon the prairies of North Dakota, it is fair to assume that the constant winds and dust may have been a factor in its causation. In none of the cases was there any granular disease of the lids, so it can not be assumed to have been a progression of granular conjunctivitis into a tumor. The tissue which was firm and smooth was, aside from the size, entirely different from the picture presented in young subjects with the enlargement of the folds about the fornix from follicular inflammation. Then, the extreme rapidity with which the growths progress is a striking feature. The upper cul-de-sac is not involved in any of these cases, as is usual in granular disease. This fact Berry also notes and suggests, that it may disappear of itself, a statement that will hold, I fear, only in much milder form of the disease than illustrated by my cases. Berry also notes the dense cartilaginous nature of the growths. Excision seems to be the only method of relief, and where large surfaces of the conjunctiva are lost, I should advise skin grafting in preference to mucous membrane from the mouth. It is possible a more extended experience with the skin and mucous membrane grafting might modify or entirely change my views, but having such a satisfactory result with the skin grafting, and in a case of transplanting of mucous membrane not only such a perfect result I am more favorably impressed with the former method. The graft must be a great deal larger than the surface to be covered, and must be cut very thin, by the sharpest razor. All bleeding must be absolutely stopped before the graft is laid on the denuded area or failure is assured. In cases where the hyperplastic mass is not attached over a broad area of the conjunctival, the edges of the conjunctiva may be approximated without further proceeding. I have no doubt but that many unreported cases of this disease exist, and it is with the hope that this brief report may stimulate a more careful study of this at the present time unusual ophthalmic disease, that I present these cases to your notice.

504 Dayton Building.

THE APPLICATION OF THE ROENTGEN RAYS TO MEDICAL DIAGNOSIS.

Abstract of paper read before the Section on Practice of Medicine, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1–4, 1897.

BY CHARLES LESTER LEONARD, A.M., M.D.

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The application of the Roentgen rays to medical science has already given to surgery a method of diagnosis the precision of which makes it of the greatest value; this value lies in the absolute pictures which we are able to secure by its means, and loses its preeminence as soon as we are compelled to substitute for the absolute picture in black and white, mental pictures which always involve the personal equation of the observer.

It is worse than useless to suppose that any new method of forming mental pictures, no matter how startling or radical, can equal in accuracy or approach in value those which the science of medical diagnosis has already taught us to form with well-nigh infallible precision. It would be supererogation on the part of anyone to think that the mental pictures which he might form by the use of the Roentgen rays could replace or even add much to the pictures which modern physical diagnosis is capable of presenting.

The property which gives this new method of diagnosis its greatest value and helps it to add to the sum of our knowledge, is its power to form real images, to make tangible shadows where only mental pictures were before possible. These tangible shadows eliminate the personal equation of the observer from the resulting diagnosis, and thus remove a source of error

common to all methods that depend on the senses of the individual for the accuracy of their results. To this advantage is added the fact that they produce permanent data which different individuals may study in various stages of the same case or compare with other cases.

The true value of the Roentgen rays and the advance made in their adaptation to medical diagnosis must be judged by the advance in our ability to replace or confirm by skiagraphs the mental images obtained by other methods. In cases where the lesion is extensive, where the symptoms and physical signs are pronounced, the skiagraph may only confirm the diagnosis, adding perhaps a few facts as to the exact shape of an aneurysm or the extent of the diseased area. It is, however, in the early stages of disease, during its inception, that it aids, chiefly by establishing a diagnosis which our most careful means of physical examination fail to make certain. This it does by differentiating between different areas of dulness, which by other methods present identical physical signs.

The application of this method to medical diagnosis is far more difficult than its application to surgery, for here we must deal with the relative opacities of structures which vary from one another by only slight degrees. To make this possible, the varying qualities of the X-ray must be under the control of the operator, so that he may employ more or less penetration as he may desire, and use at will the X^1, X^2 or X^3 rays. The results already attained in medical diagnosis are perhaps not as practical as those in surgery, but the possibilities which they open up are so great that this first insight gives promise of a future development of even greater value than in surgery.

After presenting skiagraphs which showed the entire trunk and upper extremities of a normal 5-year-old boy and the thorax of an adult male, the author draws a comparison between them and a series of skiagraphs of aortic aneurysm. The series of intrathoracic aneurysms illustrates the accuracy with which we may depict their extent and form, even in portions that are too deeply situated to permit of their definite determination by percussion, or in aneurysms so small that their existence would be difficult to determine by other means of diagnosis. It is in the cases where our diagnosis is most wanting that the skiagraph gives the greatest aid, and differentiates between small aneurysms of the aorta and mediastinal tumors. In a case where the symptoms and physical signs were not sufficiently distinct to warrant a diagnosis of aneurysm and might have been accounted for by a spasmodic irritation, an asthmatic attack or some disturbance of the circulation, the skiagraph decided the question and the area of dulness, which might have been due to tuberculosis of the mediastinal glands as was the case in one instance studied, was found to be due to a deep-seated small aneurysm. The relative opacity of tubercular glands in the mediastinum has been shown to be less than that of aneurysms.

Although deprecating the prominence which some would give to fluoroscopic diagnosis, the author realizes its possibilities and has confirmed by personal observation the results attained by others. He believes, however, that its greatest usefulness is in the detection and study of motion, either normal or pathologic, in organs whose motion is beyond the field of ordinary vision. In the study of aneurysms and their pathologic expansile motion as observed by the fluoroscope there is, therefore, a definite addition to our knowledge. The author showed in addition skiagraphs of aneurysm of the innominate artery, marked dilatation and hypertrophy of the heart, and the condition within the thorax resulting from empyema and thoracotomy. By washing out the stomach and subsequently introducing an emulsion of bismuth in a case of gastroptosis, he was enabled to show the area of the stomach through the bones of the pelvis.

In reference to X-ray "burns," the author does not believe that they are due to the X-ray *per se*, but that they are the results of induced electric currents in the tissues of the patient. The X-ray depends for its production on the physical phenomena of electric induction, and it is certain that any conductor of electricity, as the patient's tissues, if approached sufficiently near to the X-ray tube, *i. e.*, within the field of electric induction, will have a current of electricity induced in it which may be capable of destroying its vitality. A substantiation of this theory is seen in the fact recently made known, that a sheet of aluminum if grounded and placed between the tube and patient, will prevent the burn, while interfering in no way with the X-ray phenomena. The induced currents are formed in the aluminum and carried by the wire to earth without injury to the patient.

1930 Chestnut Street.

PHASES OF THE PATHOLOGY OF APPENDICITIS.

BY WILLIAM CUTHBERTSON, M.D.

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CHICAGO.

The varied etiology of appendicitis and the present somewhat chaotic conception of it renders any unique case interesting, and constitutes a reason for the publication of the following cases:

Case 1.—On June 9, 1897, I was called at 6 P.M. to see Mrs. W., 57 years of age, a large fleshy woman, who that morning was seized with colicky pains in the abdomen. Her temperature was 99 degrees F., pulse 96. The abdomen was generally tender, without any localization of pain. She had arteriosclerosis and complained of a cardiac irregularity which had troubled her for some years; otherwise personal and family history were good.

June 10, temperature 100 degrees F.; pulse 104; pain more localized in right iliac region; bowels loose, having been moved by citrate of magnesium.

June 11, temperature 101 degrees F.; pulse 108; localized tenderness in right iliac region. A sense of resistance over an area about the size of the palm of the hand existed over McBurney's point. A positive diagnosis of appendicitis was made and the patient removed to St. Luke's Hospital for operation.

Operation at 2 P.M. June 11. An incision about two and one-half inches in length was made midway between the anterior superior iliac spine and the umbilicus, and the abdomen opened. A mass could be felt in the abdomen which, after being walled off from the general cavity by aseptic gauze, was brought up into the wound and found to consist of the cecum and ileum glued together by layers of plastic lymph. The two portions of the gut being gently separated, the appendix was seen lying in a pouch formed by the cecum, ileum and meso appendix. The appendix was swollen and gangrenous throughout about two-thirds of its circumference at its proximal end.

A ligature was introduced close to the cecum, the appendix amputated, a strip of iodoform gauze inserted down to the stump, and the abdominal wound closed by silkworm gut sutures. The patient made an uninterrupted recovery.

Case 2.—Mrs. S., 53 years of age, of good family and personal history, sent for me at 5 A.M. August 1. She had been suffering all night with sharp abdominal pains which prevented her from sleeping. These pains were almost constant in the region of the umbilicus. Her temperature was 99.2 degrees F.; pulse

90. From the anxious expression on her face, the sudden onset of the pain, and its persistent character, I made a tentative diagnosis of appendicitis. I was called again at 11 A.M. and found the pain more aggravated and somewhat localized in the right iliac region. Moderate doses of morphin had not abated the suffering in the least. The bowels had been freely moved in the meantime by magnesia citrate. Her temperature at this hour was 100 degrees F.; pulse 110. I told the nurse to continue the morphin and apply hot applications to the abdomen.

At 2 P.M. I saw her in consultation with Arthur R. Edwards, M.D., and found her temperature 101.5 degrees F., pulse 120, with an area of tenderness over the lower and right half of the abdomen.

A positive diagnosis of appenditis was made and immediate operation advised. She was removed to St. Luke's Hospital and operated on at 4 P.M. The usual incision was made and on opening the abdomen, a large quantity of peritoneal fluid escaped. The peritoneal gloss was absent from the intestines for a considerable area, demonstrating conclusively the existence of peritonitis of considerable intensity. The appendix, readily brought into the wound, was to all appearances perfectly healthy. On examination, however, bulbosity could be felt at its distal extremity. For this reason I decided to amputate it. After removal, it was cut open and found to contain a small quantity of fecal matter, together with a live ascaris lumbricoides. The superficial epigastric artery crossed the abdomen very high up, and gave rise to troublesome hemorrhage before it could be secured.

This patient did nicely for about thirty-six hours, when her pulse began to fail. It gradually became weaker and increased in frequency in spite of free stimulation, till Tuesday afternoon, when it was 160 per minute and very small. The respirations were sighing and labored, with great restlessness. At this time eight ounces of a normal salt solution was injected hypodermatically. A good result was immediate, and from that time on the patient made an uninterrupted recovery.

In Case 1 on examination of the appendix after its removal, a depression was marked at the cecal opening. Evidently a hard fecal mass had become lodged there, making a pressure on the sclerosed appendiceal blood vessels, and in this way causing gangrene. The appendix was nicely shut off from the general cavity by layers of plastic lymph, agglutinating the cecum and ileum. Perforation was inevitable with the formation of an abscess cavity. In this instance an early operation saved the patient weeks of invalidism, and the increased danger of a fatal result from abscess rupturing into the abdominal cavity.

Case 2 is the first instance I have been able to find of a lubricoid causing appendicitis. The worm was lying in the lumen of the appendix and, to all appearances, had not perforated its wall. The surrounding peritonitis was intense and leads me to advance the theory of a toxin being generated by the worm, which was transmitted to the peritoneum by osmosis, thus setting up the chain of symptoms. On the other hand the worm may have penetrated the wall of the appendix and infected the peritoneum by contact.

In both these cases very small doses of morphia sulphate were given to control pain, but not sufficient to check peristalsis, or mask the symptoms.

In the first instance the patient was made comfortable; in the second, any dose of the opiate I felt it was safe to administer did not relieve the agony from which the patient suffered.

189 41st Street.

THE PREPARATION AND TESTING OF DIPHTHERIA ANTITOXIN.

BY GEORGE W. COX, M.D.

CHICAGO.

In a recent report to the Michigan State Board of Health, Dr. Charles T. McClintock of Detroit, makes the statement that "inspection of the most important laboratories of Germany, France, Austria and Great Britain reveals the fact that the methods in use for the production of diphtheria antitoxic serum and vaccine are much the same everywhere," etc. While this statement is entirely correct in a general way, it carries with it the impression that if the same methods are used by the various manufacturers, one could make just as good a serum as another, an impression as dangerous as it is erroneous. It is only necessary to mention the great discrepancy that exists between many of our drugs of the same name in order to illustrate this point. Essentially the same methods are used by all our manufacturers in the production of fluid extracts, for example, and yet our markets are burdened with every grade and shade of these remedies from the absolutely perfect to the absolutely worthless.

There are many reasons for this, the most conspicuous being a lack of care in the selection and assaying of the crude material; the use of a poor menstruum; too great haste in the preparation, and the employment of unskilled or inexperienced labor. If, then, we notice such a variation in the quality of the remedies just mentioned, how much more we might reasonably expect to find it in such delicate substances as antitoxic blood serums, where so much more skill, experience and patience are required in their preparation. Dr. McClintock tells us that in Germany any one may manufacture antitoxin, but before it is offered for sale it must be tested by a government official. In the United States we go Germany one better. We not only allow anybody to manufacture antitoxin, but we allow anybody to test it, certify to its strength and sell it. In the report above alluded to, mention is made of dividing a bottle of serum into four equal parts and sending them to four different bacteriologists for the purpose of testing. One reported the strength to be 100 units per c.c., one 150 units, one 175 units and the fourth 250 units per c.c. Aside from the amusing aspect of such extravagant variation, it would be interesting to know how that lot of serum was labeled when it was put upon the market. Who does the testing of our domestic serums, anyway? We know that in Germany they are tested by Prof. Ehrlich, who was appointed by the government for that purpose, and we have every reason to believe that his work is uniform and reliable. In France the manufacture of antitoxin is still more directly under government control. Two or three institutions in that Republic have been authorized by special ministerial decree to make and test antitoxin, the two principal ones being the great Pasteur Laboratories at Paris and Lille, under the direction of Prof. Roux and Dr. Calmette, respectively. Inasmuch as we must rely upon the name and reputation of the manufacturer for our guidance in the selection of a serum for use, it seems but the part of wisdom for us to lay aside all prejudice and sentimentality and choose one whose label bears a name known and honored throughout the world. Diphtheria is such a treacherous and fatal disease, and our responsibility in combating it so grave, that we can not afford to jeopardize our own reputation, to say nothing about the life of the patient, by using a serum that is not vouched for by someone whose authority is recognized everywhere. In this connection it may be stated that there are four names so intimately associated with diphtheria and its cure, that the mere mention of the disease at once suggests these names: Roux, the discoverer of the diphtheria

toxin; Behring, the discoverer of the antitoxin; Calmette, the distinguished director of the Pasteur Laboratories at Lille, and Ehrlich who created the world's standard for the testing of serums. The first mentioned of this group, whose great discovery made it possible for the others to follow with their specialties, is still in the harness at the Pasteur Laboratories in Paris, exercising personal supervision over every branch of the preparation of the serum that bears his name. He not only sees that the finished products are properly tested and sealed, but he makes sure that the tests are made with toxins of the proper degree of virulence. He also prepares his serums without antiseptics, having proved not only that such antiseptics are prejudicial to the patient, but that the serums retain their freshness and potency longer without these extraneous substances than they do with them. In these two very important respects, then, it must be said that Roux's methods are not used "almost everywhere," nor indeed *almost anywhere*, except in his own laboratory. Much has been said about the relative antitoxic strength of different serums, and some fabulous claims have been made in this direction. Roux has never been favorably inclined toward serums of extra high potency, say 400 or 500 units per c.c., for the simple reason that while it is easy enough to produce them, they do not retain their strength as well as those of lesser potency, 150 to 300 units per c.c.; and if antiseptics are added, the deterioration is all the more pronounced and rapid. Originally Roux's serums were quite weak as compared with the strengths *claimed* for others, and consequently large doses were required; but he has gradually increased the strength until his standard serum is now about three times as strong as it was eighteen months ago. That is to say, his "regular" serum contains 150 units per c.c., while the "extra" prepared by Calmette, is just double that strength. Roux has satisfied himself, by long-continued experimentation, that this last named strength (300 units per c.c.) is about the limit beyond which a serum can not be depended upon to retain its full potency for any length of time. Inasmuch as there is no more danger in administering these antitoxins than there would be in using pure blood serum, the dosage is practically unlimited, and the required antitoxic power may always be given without fear, regardless of the bulk. However, in response to the clamor for a serum of a higher antitoxic power, Roux has now entrusted Calmette with the preparation of one of at least 500 units per c.c. This is known as his "Concentrated" serum, and is dispensed in vials of 5 c.c. or 2500 units.

It is to be hoped that my readers will pardon me for thus dilating upon the excellencies of any one antitoxin, especially one of foreign manufacture, as sentiments of loyalty should and do naturally incline one's preference toward a home product. But aside from the great respect that is due from the entire world to the pathfinder in bacteriologic science, I am in a position to know what is going on at the Pasteur Laboratories at all times, and I do not allow my enthusiasm to lead me into statements that can not be backed up by authority from headquarters. It seems to me more than likely that if Dr. McClintock had given the Pasteur Laboratories a thorough inspection, he would not only have met there a full half dozen of the world's greatest bacteriologic specialists, but he would also have noticed many details in the methods of preparing and testing antitoxins not to be seen elsewhere. For example, he would have noticed that they do not prepare their serums in a hurry. Nature having a considerable part in this process, she takes her own time in its performance, as she does in all her works, and no effort is made to abbreviate it. One particular serum that requires *twelve months* for its production by its discoverer is made in this country in less than half that time. It is not necessary to make comparisons as to the quality of the two products. The doctor would also have observed that the 300 or 400 horses from which the various serums are taken are kept in the country, many miles from the unsanitary surroundings of city stables, and that a portion of the time during treatment is spent in green pastures where nature's food, pure air and voluntary exercise are enjoyed to the full. It must be confessed that these and many other details in the production of antitoxin at the Pasteur Laboratories are at great variance with those in vogue at other places, and not altogether to the credit of the "other places." Finally, the writer has always been of the opinion that the laxity of our laws upon sanitation, is a mark of shameful carelessness on the part of Congress, a disgrace to the members of the medical profession for silently submitting to legislative inactivity and a constant menace to the welfare of our people. The testing of antitoxins should be under government control. Are we not as worthy of such protection as the French or Germans? I think so; and as a starter in this direction I move that the profession as a body appeal to Congress for the establishment of a Department of Public Health.

2258 Wabash Avenue.

ALKALIN ANTISEPTIC TABLETS.

BY HENRY W. WANDLESS, M.D.
DALLAS, TEXAS.

Each tablet is composed of the following: Acid boracic, grs. 22.5; sodii bicarb., grs. 7.5; sodii biborat., grs. 7.5; camphor, grs. 1⅞; menthol, grs. 1⅞; thymol, gr. .5 combined with three minims of the following combinations of oils: Oil pinus pinolias, 2 parts; oil eucalyptus, 2 parts; oil Scotch pine, 2 parts; oil spruce, 1 part; oil cedar, 1 part; oil cubebs, 1 part; oil wintergreen, .25 part; oil bay leaves .25 part; chloroform, 2 parts.

These tablets are very useful in the treatment of catarrhal conditions of the nose, throat and ear. They are used by dissolving them in hot water and used as a douche or spray, and are sometimes useful dissolved in the mouth in cases of sore throat and troublesome cough caused by irritation of the larynx. One of these tablets dissolved in one or two ounces of boiling water will make a very agreeable wash or spray for the nose, throat or ear. I usually have made one gallon of the solution at one time, which is prepared as follows: after the water reaches the boiling point, one tablet is added for each fluid ounce and allowed to boil for five minutes, after which the solution is placed in a macerating jar and allowed to stand with occasional shaking, from three to four weeks, or until needed for use. It is then filtered or siphoned from the bottom without disturbing the top and is then ready for use. The solution, prepared as described, imparts a very rich, mellow odor; and while it is a little sharp when first sprayed into the nose this is followed by a delightfully refreshing and soothing effect.

The efficacy of the solution does not seem to be

increased by age. A freshly prepared solution differs from that macerated for sometime, only in the absence of the rich, mellow odor and taste which comes with age. Some mucous membranes are much more sensitive than others, and for these the solution should be diluted with a 4 per cent. solution of acid boracic. For simple catarrhal inflammations of the nose, throat and ear, its curative influence is very marked; for dissolving and removing impacted cerumen from the ear and for general cleansing purposes of the organs named, I have not found anything that has given me the same degree of satisfaction. In fact, my entire experience with this formula (which covers a period of three or more years) has been extremely happy.

The unusual amount of volatile oils of pine held in solution by reason of the salts of soda, undoubtedly imparts to the mucous membranes of the nose and throat its acknowledged therapeutic effect, and that it is rapidly absorbed into the system by the mucous membranes, especially the nose, is shown by the effect upon certain organs of secretion.

I have the formula put up in tablets, because it is very convenient to use them, and besides a patient may make the solution at home as he needs it. It has been observed that a portion of one of these tablets dissolved in the mouth and swallowed will relieve the sickness caused by the swinging motion of a moving train; also the sickness and vomiting caused by the disagreeable effects of cocain applied to the naso-pharynx, larynx and soft palate.

SURGERY ONE HUNDRED YEARS AGO.

AN HISTORICAL STUDY

BY DR. GEORGE FISCHER.

DEDICATED TO THE GERMAN SURGICAL ASSOCIATION.

TRANSLATED FOR THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

BY CARL H. VON KLEIN, A.M., M.D.

XVII.—DISEASES OF THE HEAD AND FACE.

(*Continued from page 1113.*)

In affections of the *tongue* Richter made use of the following principles: Large cross cuts, if they could be gotten at, were immediately sewed; small wounds, or if situated far back, were left untouched, but the patient's mouth was tied up to prevent all motion. Serious hemorrhages were stopped by the hot iron, also by compression or ice. According to Job von Meekren, for glossitis it was necessary to make two deep incisions about two inches in length. Cancer of the tongue was extirpated with a curved scissors and a pair of hooked nippers, then the wound was cauterized, which was also done in case of a relapse. Symptoms against the operation were indicated by the swollen glands under the jaw and the impossibility to remove every particle of the cancer. In case of serious macroglossia a portion of the tongue was cut away and this was done very boldly, since Louis, who was the first one to fully describe this disease and was the first to recommend the extirpation of the tongue (1774), called attention to patients who had lost nearly the whole tongue and yet were able to speak, chew and swallow. Although the operation of ankyloglossia was very simple and often performed without any danger, the instruments invented therefor were numerous and complicated. Heister constructed a spatula provided with a notch, to raise the tongue; this instrument may be found in every physician's case today. J. L. Petit invented a curved spatula combined with a scissors and ordered children to be rigidly watched, being apt to suck the bleeding wound for a long time; Levret and Bell also made special scissors, etc.

The nature of *ranula* was variously interpreted. As a blister or a sack-like formation (Heister), or as an enlargement of a portion of the Whartonian duct in which the saliva had accumulated and this stopping up of the passage necessitated an opening. (Louis and Girard). Richter thought likewise. He split the swelling along its entire length, cut away as much as possible of both sides of the sack and besmeared the posterior wall with antimonial salve for a few days. Other methods of treatment were, to make an incision and insert caustics (Heister; Acrel introduced muriatic acid into the opening, and Camper, nitrate of silver); lead wire and charpie were inserted (Louis, Sabatier); also a fine sound into the occluded salivary duct (Desault), or a seton put in (van der Haar).

When the *tonsils* were inflamed Richter advocated scarification with the pharyngotome, which he also used to open abscesses. To remove the tonsils he caught one of them with a simple hook, which he preferred to a Muzeux forceps, and without the aid of an instrument to keep the mouth open, he cut off half of the projecting piece from the bottom to the top with a covered knife and then cut out the other half from the top to the bottom. The scissors he employed only at the base of the swelling or if after the operation a flap had remained. The cut from the base to the top Louis introduced because otherwise the half-loosened tonsil might fall on the glottis. Also for this operation many new knives and scissors were invented, among them Desault's kiotome. Since fatal hemorrhages had resulted probably from trying to extirpate the entire tonsil and England having rejected Wiseman's method of cauterizing, the tying of the tonsils was considered the safest mode, according to Cheselden, Sharp and B. Bell. Also C. C. von Siebold favored the same, while the Italians, Bertrandi and Moscati defended the incision, as they had never witnessed a hemorrhage of any consequence and were satisfied with cutting off only the prominent part of the tonsil.

Among the diseases of the *parotid gland*, a dispersion of the usual inflammation was first tried, in order to prevent suppuration and a salivary fistula. On the other hand it was considered dangerous, on account of a metastasis to the testicle and brain being apt to result, to disperse the "malignant" form of inflammation, the so-called angina parotidea, which the laity in England termed "mumps" (Hamilton, 1790) and which was first observed as an epidemic in Lyons in 1758. The metastasis of this disease to the other organs mentioned was preventable by the immediate application of a Spanish-fly plaster over the parotid gland. If the testicles were already affected, by treating them in a similar manner as the gland, the disease could be kept from going to the brain. Suppurations of the parotid glands had to be opened; but J. L. Petit noted that the face became paralyzed after he cut through the aponeurosis. In case of scirrhous swellings, of which a transition into cancer had not yet been observed, Richter almost entirely rejected extirpation on account of the existing danger of severing of important vessels and nerves, occurrence of facial paralysis or of lock-jaw. Besides, he put the question whether the easy and successful operation really concerned the parotid gland alone, or whether

instead it was not more likely that its near neighbors, the lymphatic glands, had become indurated and also removed. Furthermore, there are many patients who have grown old with an enormous swelling of the parotid. Heister performed several successful extirpations and conjectured that no one in Paris had ventured the operation; also Kaltschmidt and C. C. von Siebold were successful, and had twice succeeded in removing an immovable swelling the size of a fist and thereby injured the carotis externa, so that within two minutes two pounds of blood were lost. Lying too deep, binding was impossible, so the bleeding was stopped by compression with a sponge. Desault, who like Richter thought that a full extirpation could not be made, successfully cut away the front part of the gland and gradually destroyed the remaining portion by caustics! In connection with another case he followed Roonhuysen's example and tied off the exposed swelling at its base with a ligature; so also did Ollenroth.

In conclusion, a few operations on the ear are given. The connection between the ear and the pharynx was known centuries ago, and Valsalva had described the plugging of the auditory canal as an occasional cause of deafness. Nevertheless, science owes the discovery of the catheterization of the Eustachian tube to a layman. Guyot, the ingenious postmaster of Versailles, took a tube of zinc bent like the knee-joint and passed it through his mouth into the tuba to make injections; he is said to have thus cured his deafness. The academicians in Paris thought this idea "très ingénieux," but seemed to be a little doubtful, as shown by their further remark: "On en lave au moins l'embouchure de la trompe, ce qui peut être utile en certains cas." Then an English military surgeon, Cleland, invented a flexible silver tube to be passed through the nose (1741). He it was who, in the following ingenious manner, constructed the first real apparatus for illuminating the ear. He took a convex hand lens three inches in diameter, and opposite the middle part of it fastened a tallow candle, the rays of which he allowed to enter the auditory canal! For catheterizing the tuba, Douglas used solid silver catheters. Now the operation was often successfully performed in cases of deafness that had suddenly been caused by catarrh (Wathen, Callisen, Himly). The clever B. Bell opposed it because he doubted the possibility of introducing a probe and thought that all of the liquid would flow into the throat. The consequence was that the process was abandoned for a long time. It was furthermore asserted that the probing drove the mucus further into the tuba so that the patient would be able to hear still less. Lentin, also convinced of the difficulties connected with injections, wished to rub off the orifice of the tube with a piece of veal. A little better than this veal-roast idea was that of Sims in London in 1787, who resurrected Valsalva's theory. A second mode of treatment was the operation of perforating the mastoid process introduced in the past century. Already Riolan had proposed this method and thought that by the perforation of the bone the pent-up air might be removed from the ear. It seems that in 1704 Valsalva first made an injection through an opening in a fistula existing behind the ear and noticed that the fluid ran into the mouth. J. L. Petit was the first one to successfully perform this operation by perforating the mastoid process for abscess and then removing the filthy pus from the osseous cavities. He thereby learned the great importance of the indications without being aware of the preceding fact. Jasser, the Prussian regimental surgeon, performed a similar operation in 1776 and was therefore, for a long time, erroneously considered to be the discoverer of it. It was an accident that led him to this discovery, for he had no knowledge of the anatomic relations of the ear to the pharynx, and so surprised was he to see the injected liquid flow out of the nose that he afterward made experiments on cadavers to convince himself. His patient was deaf in both ears and suffered much pain, and there was a purulent discharge. As soon as he felt fluctuations on the mastoid process of the right ear, Jasser made an incision down to the bone, which he found so soft that the sound easily penetrated it into the cells. After repeated injections the pain and discharge of pus were mitigated. Then he perforated the other mastoid process, which had not softened on the outside, by means of a trocar, made similar injections and finally cured his patient. He ended his communication with the following remark: "Should a patient who has lost his hearing and who is not afraid of an incision and a perforation, which, in this spot, is not considerable nor dangerous, I would repeat this experiment without hesitation" (Schmucker's verm. chir. Schr. III, p. 113, 1782). Five years passed by during which nothing was heard of the operation. Then it was several times successfully performed by Fielitz and Loeffler, although they did not clearly understand the symptoms; the latter did not think much of the operation. But warning messages were soon received from the northern countries. Hagstrom, a Swede, had to abandon the operation on account of hemorrhage and additional bad symptoms, but yet he considered the operation a very good one and gave more definite symptoms; so also did Acrel and Murray. Now it happened that the Danish surgeons, Callisen and Kölpin, could not save the life of the King of Denmark's court physician, Baron von Berger, who, having been afflicted with a buzzing in the ears and partial deafness, died of purulent meningitis, the eleventh day after the operation (1791). According to the measurements taken the perforation must have injured the brain. Although Himly tried to persuade them not to be discouraged by this fatality, being due to a scientific error, the operation lost its reputation and sank into obscurity for scores of years. The third operation under the subject of aural surgery was likewise an infant of the times, the puncture of the drum. Riolan had also had an idea of this operation, which came to him one day when the drum of an ear was accidentally perforated, restoring the sense of hearing, and the question whether science could not serve a similar purpose arose in his mind. Willis and Valsalva first experimented on dogs; later on Cheselden tried too, while the wandering quack, Eli, performed the operation on those hard of hearing, in Paris for the first time in 1760. Himly scientifically introduced the same into Germany and as early as 1797 recommended it in his lectures which he demonstrated by operations on cadavers and live dogs and in 1806 made the first operation on a patient hard of hearing. Similar achievements were gained for English surgery by Astley Cooper in 1801. The first idea of an artificial drum dates back to the year 1640, when Banzer of Wittenberg proposed a tube constructed from the claw of a stag, covered at one end by the bladder of a hog. Then the discovery slumbered until 1763, when it was resurrected by Leschevin.

For the removal of the little ear polyp every form of operative surgery was employed; some tore it out, others like Richter, twisted it off; again it was cut or tied off (B. Bell); what method remained? Cauterizing (Loder).

XVIII.—DISEASES OF THE THROAT, CHEST AND ABDOMEN.

Tracheotomy; Throat wounds; Foreign bodies in the esophagus; Esophagotomy; Gastrotomy; Goiter; Chest wounds; Paracentesis of the thoracic cavity; Mechanical treatment of phthisis pulmonaris; Opening of the pericardium; Paracentesis of the Abdomen; Abdominal wounds; Abscess of the liver; Openings of the gall-bladder; Extirpation of the spleen; Hernia.

In modern surgery, *tracheotomy*, by means of which many lives had already been saved from suffocation during Cicero's times, is considered an operation comparatively free from danger; yet when performed during the last stages of life on a patient suffering with croup, promises but little success. Great stress is today laid upon this point of not waiting too long. During the first decade of our century tracheotomy made a bold fight to be an operative agent in croup. When Napoleon I., in the year 1807, offered a reward of 12,000 francs for the best work an croup, Jurine of Genf and Albers of Bremen, who captured the prize, opposed the operation. In consequence, its practice was generally limited and Caron of Paris, who, on account of an error of form, having been excluded from the assembly, had said: "Hors la trachéotomie point de salut pour les croupalisés," received no recognition. Not until 1825 did its advocates, Bretonneau and Trousseau, open a new field for the operation, but during the 40's there was as yet no thought of its general adoption. Dieffenbach considered tracheotomy a very dangerous operation, compared it to trephining, in which a wound endangering life is made in order to put an end to an endangering condition, and hence advocated its use only in extreme cases of necessity. Malgaigne thanked God when people knocked at his door desiring his assistance for something else than tracheotomy for croup. When all other methods had failed the physicians of that time performed the operation as a last resort.

What ideas did surgeons entertain in the last century? Their views were identical with modern ideas. Another clear proof that the point of view with reference to science ever fluctuates, that truths are forgotten and must be discovered anew, if we pay no attentions to the teachings of our predecessors. Frank Home of Edinburgh, who introduced the name "croup," for the first time recommended tracheotomy in 1765, after croup epidemics had been observed everywhere in Europe in the first half of the past century. Soon thereafter (1768) Louis declared it to be an easy operation, connected with but little danger and expressed his surprise that it was so seldom performed. He knew that with croup it availed nothing when employed as a last resort after all other methods had failed. On the contrary, he thought it ought to be one of the first remedial agents used, as soon as a case grows worse; also as a preventive of pneumonia. "Opérez le plus tôt possible." Also Heister, who ardently favored tracheotomy, warned "not to tarry too long with an operative interference in this affection, otherwise the patient's strength would be spent, when there would be no hope of success in most cases; it must take place when the patient is still strong." Popular prejudice existed then, as it does now. Therefore, the same surgeon advised "to always consult other learned professionals and never to perform an operation alone, so that, in case the patient died, his reputation did not suffer and have it reported that he had thereby taken his life, for most people considered the operation very dangerous (although it is not so dangerous) and would say that the surgeon had cut the patients throat; that is the reason so many surgeons do not like to undertake the operation." That it can be performed with ease and safety was a statement emphatically asserted by B. Bell and Richter, who, like Louis, designated the time for an operation in croup. According to Michaelis (1778), bleeding, leeches, plasters for blistering and emetics were the first remedial agents to be tried, and in case of failure tracheotomy, as the only means of saving the patient, was to follow immediately. In the year 1797 Richter asserted that there was not an unsuccessful case on record, and we must here remark that the first operation in a case of croup on record was performed by John Andrée in 1782; it appeared that Thomas Chevalier was the first one to make a successful operation in 1814.

Heister, who recommended the term tracheotomy, instead of laryngotomy and bronchotomy, advised the use of tracheotomy for the following indications: Distress caused from suffocation from croup (angina), for foreign bodies in the trachea, and in order to inflate the lungs of the drowned with air. The last indication had been stated by Detharding in Rostock (1714) and the first idea of tracheotomy to produce artificial respiration was advanced. Later more indications for this mode of operative interference were added. Richter (1771) supplied the following: In connection with the ligature when the nasal polyps hung far down into the pharynx, for polyps in the esophagus to aid the ligature, when suffocating spasms occur in serious inflammations of the tongue, for wounds in the larynx and for a large tumor on the neck. He, as did Louis and Desault, opposed the operation with drowned persons, while Pouteau drained the water that had been forced into the air-passages by means of a tube inserted for the purpose; this was the first account of an eagerly desired proceeding. Further indications were, foreign substances in the upper part of the esophagus, highly inflamed swollen tonsils, the condition of the jugular glands after the application of mercury (B. Bell), the suffocated and the apparently dead (Ehrlich). In croup, Sharp wished the operation restricted to the time when the throat was considerably swollen through enlargement of the thyroid gland and parts in its immediate vicinity, but was therefor reprimanded by Bell.

During Heister's time there were various methods of performing tracheotomy. The first method was as follows: beneath the Adam's apple an incision of two to three fingers' breadth was made lengthwise with or without raising a fold of skin and the blood was stanched by applying a sponge steeped in tepid brandy. Then the wound was kept asunder with the fingers or hooks and a knife or a lancet was thrust crosswise between two segments of the trachea (between the third and fourth rings, Garengeot, Sharp), even cutting a segment in two. Before withdrawing the knife a sound was put into the opening beside it, in order to insert the tube (which may be curved, round or smooth; of silver or lead) more easily. With a tape drawn through its rings, it was fastened around the neck. A piece of fine linen (Garengeot) or a sponge steeped in

warm wine was used to plug the opening so as to prevent the penetration of cold air or foreign particles. The second method consisted of piercing the skin, muscles and trachea at the same time with a double-edged knife. Sharp rejected this mode on account of the mobility of the trachea. Finally, also, a trocar (the so-called bronchotome) was thrust into the windpipe, the point was then withdrawn and the tube allowed to remain. After three or four days, or even a longer period, according to the time necessary for the symptoms to abate, the tube was removed. The next decades improved the technic of the operation, but a few deficiencies still remained and new follies were added. The cut through the skin by means of the cross fold, Richter allowed to extend from the first ring to near the breastbone in order to obtain an aperture sufficiently large (Garengeot), and freed the space between the third and fourth rings from cellular tissue, fat and muscles. On the other hand, Sharp disapproved of cutting through the sternohyoid and sternothyroid and steadied the trachea for the opening with the nail of his left index finger. It was of the greatest importance not to open the windpipe, until the bleeding, which was excessive at times but never dangerous, was stopped by tying, and above all to avoid the thyroid gland. Therefore, B. Bell pierced the trachea above the thyroid through the fissure between the two glandular flaps, while Richter opened the windpipe as low down as possible and pushed the gland back. In order to prevent the blood from entering the trachea various instruments for opening the air passages were constructed and Percy's method by means of the scissors was no longer thought of. The first bronchotome had been proposed by Dekkers of Leyden (1673); it became the forerunner of a number of new instruments, among which was Bauchot's bronchotome, consisting of a flat, straight tube into which a short two-edged lancet was exactly fitted. Richter used the same instrument, but curved it. He preferred the flat tubes to the round ones, because the latter did not completely fill the elongated aperture, and the blood entered the trachea; he selected the curved instead of the straight tube, as this, if too long, would touch the rear wall of the windpipe and if too short, was liable to drop out of the wound. B. Bell, on the other hand, could not be convinced of the inconveniences of a straight tube and preferred it to the curved one. A single tube, which, when filled with mucus, could be cleaned by means of a feather, sufficed Richter. The first double straight canula was invented by Martini when he noticed the tube filled with coagulated blood and pus; the Paderborn surgeon, Ficker, constructed the first double and curved canula, the outer of silver and the inner one of hard rubber. Sabatier thought he could get along without a tube, seeing so many difficulties with which its insertion was connected, and based his idea on his experience with wounds of the trachea, when the air passed unimpeded through the wound. Also, Michaelis considered a tube in croup unnecessary, for, as soon as the "polyp" had been removed the wound could be immediately healed. It had happened that the tube had been thrown out by violent coughing and the suffocating spasms had become so bad that the surgeon could not quickly enough replace the same and in consequence the trachea was ruptured along its entire length (Virgil). For the removal of foreign substances, the margins of the wound were plied open with dull hooks, and a curved pair of forceps was introduced.

A new operative method based on successful attempts made with dogs was given by Vicq d'Azyr: Splitting the cricothyroid ligament crosswise ("Hist. de la Soc. roy. de Méd.," I, 1777). This found many followers (Chopart, Desault, Erhlich), and was successfully performed in croup by J. Hunter. On account of the ease and less hemorrhage with which this method could be accomplished, Desault preferred it; besides, he contended that an aperture in the trachea could be of no use in treating the larynx for caries or for foreign substances contained therein. For the passage of the air, the opening in the cricothyroid ligament, which he made with a common bistoury would suffice, and he thought it only justifiable to use the bronchotome for piercing the trachea when there was an excessive discharge of blood. On the other hand, to extract foreign substances he cut open the whole length of the thyroid cartilage upward from the aperture on a hollow probe. If the impediment was not immediately removed it was taken out with the forceps, or if it lodged in the glottis it was pushed upward into the mouth. Also the operation of splitting the ring cartilage, which was not dangerous, might be added. In spite of the successes attained, Richter wished to know nothing about this new method, because the inserted tube above would necessarily tear more easily than in the lower position in the trachea.

Wherever it was necessary to furnish an opening for the air to pass through, Desault found a substitute for tracheotomy in the timely insertion of a caoutchouc tube into the windpipe, which procedure was already known in antiquity. He thus curtailed the indications for tracheotomy, which consequently remained the last remedial agent. In angina, with foreign sustances and caries of the larynx, an early operation in tracheotomy ought to be performed, while in inflammations with abscesses in the pharynx and the tonsils, with foreign bodies in the throat and esophagus, and in wounds in the throat a rubber tube ought to be used. It caused irritation and cough only when passed by the glottis, but the various parts soon accustomed themselves to it, so that it could be left for several hours without effecting any annoyance. Desault inserted the tube through the nose, and related a case where a soldier had two sounds put through the nose, one through each nostril, leading into the trachea and esophagus respectively, which he wore two weeks. As proofs that the one was really lodged in the larynx and not in the pharynx, were cited, a painful tickling, sudden fits of coughing, the vibrating of a flame held before it and the resistance of the wall between it and the windpipe. A curved stylet as a mandrin aided the insertion of the tube into the glottis.

Had tracheotomy become naturalized among the practitioners? Not in the least. The operations in tracheotomy, especially in croup, were very infrequent. The complaints made by Louis and B. Bell were reiterated by Richter in 1797. As far as the latter was concerned, the operation was performed too infrequently, and he was greatly surprised that it was so, there being no lack of opportunities and it was "so easy and free from danger." It is not said whether he himself often made use of tracheotomy; in 1771, he asserted that he had performed the operation repeatedly for eight years on cadavers and dogs, and once on a human being; for these, he used his instrument with success and ease. An essential reason

for the infrequency of the operation in croup was that the laity recoiled from the danger connected with the same and the surgeons dreaded the censure in case of failure. A hindrance to its use in removing foreign substances was the uncertain diagnosis of the impediment. As early as 1720 Heister had successfully performed tracheotomy on a young man in Helmstädt who had a piece of moril in his windpipe that had slipped in during his meal while laughing. Rau also performed the operation for a bean, and later Wendt (1774), an acorn being the obstruction.

Among the *throat wounds*, the crosscuts of the windpipe, if occupying only half of the front, were not considered very dangerous. The piercing of the whole trachea, on the other hand, was thought fatal on account of the injuries to adjoining parts. In cases of the former kind, after stopping the hemorrhage, it was enough to bring the margins of the wound in apposition by bending the head forward and retaining the head in this position by bandages (the Köhler cap); or else the margins were joined by a suture. The needle was passed in and out through the skin and not through the cartilage, and was removed only when the patient coughed violently. And yet it was known that large wounds had been treated without a suture having been made. It was, however, recommended nearly everywhere, although Paré had already seen emphysema supervene in consequence over the entire body, so that the patient resembled a sheep which had been inflated for the purpose of shearing it. Very decidedly did Sabatier oppose the suture, deeming it more dangerous than the throat affection itself. Even slight cut wounds in the esophagus, that extended half-way across, had been known to heal (Schmucker); only complete divisions of the same were considered fatal. They also were sewed up, but if the irritation was too great only the wound in the trachea was stitched and the one in the esophagus was left to take care of itself. Amongst the injuries sustained from the interior to the exterior, an observation on the part of Boerhaave became famous. The Grand Admiral of the Dutch Republic, Baron Vassenaer, who had the habit of taking an emetic after every banquet, was suddenly seized with great pains and died after eighteen hours; the esophagus had been severed, the rupture being an inch and a half in length, without a trace of ulceration. For nourishing the patients, Ravaton had proposed to insert a tube into the esophagus; also Desault, convinced of the inutility of nourishing enemas, used a thick elastic tube therefor. He introduced the same more generally in his practice where there existed great difficulty in swallowing, as in throat wounds, shot wounds in the mouth, swelling of the tonsils and tongue, abscesses along the esophagus, inflammations of the pharynx and tetanus. The tube was allowed to remain a number of days, but would, at times, cause hemorrhage or vomiting, so that its removal was necessary (Ehrlich). In case the esophagus became paralyzed, J. Hunter proposed the idea of taking the skin of an eel, which had an incision at the lower end, inserting it down into the stomach by means of a probe and through it injecting the proper nourishment. In persistent contractions of the esophagus Richter hoped that nature would do the work in its frequent expansions of the same by food and drink. For examining and dilating the same, E. Home first advised the bougie and Wathen obtained successful cures in gradually widening the esophagus by means of wax candles inserted daily. Pelletan made experiments with cauterization. In wounds of the large vessels of the throat, which have been very deficiently described as a rule, ligatures were applied or steady pressure. B. Bell employed similar means with the larger veins, when cut through; compression he used in throat wounds.

(To be continued.)

SOCIETY PROCEEDINGS.

Chicago Ophthalmological and Otological Society.

Regular meeting held Oct. 12, 1897, in the Stewart Building.

Dr. MONTGOMERY in the Chair.

There were twenty members and visitors in attendance. Minutes of the last meeting read and approved. The application of Dr. J. B. Taylor of Bloomington, Ill., was referred to the Committee on Membership.

Dr. WILDER showed a man aged 50 years, with a good family and personal history, whose mother had suddenly become blind after suffering severe pain. In August, 1896, the patient noticed that vision in the left eye became very poor, and blood was seen at that time in the anterior chamber. There was no pain then, but it developed soon afterward. There was detachment of the retina, which is now complete. He consulted a number of oculists, some of whom called it iritis, and others glaucoma. Six months ago an iridectomy was done upward, and following the operation there was considerable pain and hemorrhage. At present the tension of the eye is slightly increased and there is slight pain. There is a large amount of fluid blood in the anterior chamber, which has been there for a long period. The lens is cataractous. About a week ago well-marked pain suddenly developed, and three days later there was found on the cornea three small vesicles overlapping each other like the three links of a chain, probably a true herpes.

Dr. HOTZ thought the case was hardly one of hemorrhagic glaucoma because of the great depth of the anterior chamber and of the slight, if any, increased tension. He had always found the chamber very shallow in cases of hemorrhagic glaucoma.

Dr. MONTGOMERY had seen a case six months ago in which the tension was + 3; but there was no hemorrhage. The anterior chamber was deep. A tumor was suspected, and an iridectomy was made, following which the tension dropped to normal and there was perception of light. Recently, however, the tension had again gone up and hemorrhages had appeared in the anterior chamber.

Dr. COLBURN had seen cases in which there were retinal hemorrhages, followed later by blood in the anterior chamber. In regard to the vesicles in this case he had seen several, but none where they were arranged in this way. He had noticed in some cases of choroiditis that vesicles appeared at times, usually accompanied by great pain.

Dr. MONTGOMERY had seen cases of complete detachment develop pain from glaucoma, or from uveitis.

Dr. GRADLE had found uveitis not uncommon in detachment cases, but had never seen glaucoma following.

Dr. HOTZ had never seen glaucoma follow detachment of the retina.

Dr. DODD showed a case of ulcer on the palpebral conjunctiva, which was first seen three weeks ago, at which time there was no swelling. The ulcer was small, and the discomfort had existed about a month. It slowly extended and soon involved the whole surface, including the edge, of the lid. The lid is now considerably swollen. Nitrate of silver and other antiseptics had no effect on the ulcer, and although a history of syphilis was denied, it was probably a chancre.

Drs. MONTGOMERY, HOTZ and PINCKARD had all seen cases of chancre of the conjunctiva following the removal of a foreign body by means of the tongue.

Dr. W. H. WOODRUFF showed a boy who was struck in the left eye on July 4. He was first seen a month later, at which time there was a cataract and a small cyst in the upper outer periphery of the iris, very well defined, and occupying about a third of the breadth of the iris.

He referred to another case he had recently seen in a man 55 years old with good vision, whose pupil dilates well except at the point of the cyst. As far as could be determined this was a congenital condition.

Dr. DODD had studied two cases of cyst of the iris with

Treacher Collins of London, both of which were traumatic. Such cysts are supposed to develop, by some, from the crypts in the iris; by others, from a hemorrhage in the periphery, which later develops into a cyst.

Dr. GAMBLE showed a case of locomotor ataxia in a girl of 8 years, first seen May 17, 1897. Vision in the right eye, fingers at three feet, and left eye p.l. Ophthalmoscopic examination showed primary gray atrophy of both discs with marked atrophic cupping. Pupils dilated; no reflex to accommodation or light; patellar reflexes gone; Romberg's symptoms much pronounced; no nystagmus. She never had any severe illness except diphtheria when one year old, which was not followed by sequelæ. She had severe headaches from infancy at irregular intervals, varying from one month to six months. During one of these attacks her hand became so numb that she could not feel the door knob and open the door. No cerebral disturbance noticeable; no girdle symptoms. She was examined by Dr. King, who found no change in sensation.

The father was examined in the latter part of May and found to have primary gray atrophy of the discs. He had had a chancre in 1871. He was also examined by Dr. King, who made a diagnosis of locomotor ataxia.

Dr. GAMBLE showed a case of sarcoma of the ciliary body involving also about one-third of the iris. As far as could be determined, this had existed only a few months.

Dr. WILDER showed a case of dermoid tumor of the cornea. Alice P., aged 19, came to the Illinois Eye and Ear Infirmary in July of this year on account of a growth on the left eye. She was first seen by W. L. Noble, M.D., through whose kindness she was transferred to his service. The patient has always been in good health, and has no evidence of malformation or abnormal growths in any other part. Situated at the outer margin of the cornea was a bean shaped growth whose longest diameter was about 10 mm., and shortest about 7 mm. It was a thick fleshy mass, overlapping the cornea several mm. and lying in the episcleral region with the conjunctiva extending on to it. It was yellowish white in color, of a fine consistence and had several hairs growing from the surface. The mother stated that the tumor was not present at birth, but developed in early childhood as a result of a scratch of the eye, rapidly attained its growth, and has not noticeably increased in size during the last ten years. It causes discomfort on account of its size preventing perfect closure of the lids, and because of the hairs irritating the cornea. She has frequently had the hairs drawn. In excising it care was taken to preserve as much conjunctiva as possible in order to cover the wound. The site of the growth on the cornea and sclerotic was carefully curetted with a sharp spoon after the removal of the mass, and the conjunctiva stitched over it. It healed very kindly, and in a short time the patient was discharged. The sections show typical cutaneous structures.

The Doctor is inclined to think that the term dermoid cyst is inappropriate for these growths, which, so far as his observation goes, are solid tumors and not cystic. They differ in this respect from the dermoid growths that occur in the ovary, testicle, and the abdominal cavity. Such tumors, as we know, *are* cystic and are probably caused by an invagination of the epiblastic layer of the embryo. In these the lining wall is epithelial and the growth is *inward*, so that the cyst becomes filled with hairs, sebaceous material, disintegrated epithelium and even teeth and bones. The same may be said of the dermoid tumors that affect the orbit and sometimes push forward on to the eyeball. But with dermoid tumor of the sclerocorneal junction the case is different. In this we have a solid mass, composed, it is true, of cutaneous structures, but with the epithelial layer on the outside, and the hairs growing outward. The interior of the mass is of connective tissue with numerous elastic fibers, as shown so well in the microscopic preparation exhibited. He was inclined to think that in the *nature of their development* they are not akin to the dermoid cysts of other parts, but are in some way connected with the development of the lids.

In the embryo the eyelids are formed from the palpebral folds which, as they grow, approach each other and become united. Later a separation takes place, but some of the epiblastic tissue may remain in contact with the eyeball and take on an independent growth. Such growth might continue even after birth, or the little mass might remain quiet for several years and then begin to increase in size.

Dr. HOTZ had seen several true cysts of a dermoid character occurring on the cornea.

Dr. HOTZ read a report on "Holocain" (see JOURNAL, p. 1012, and *Ophthalmic Record*).

Dr. HALE said it is reported that holocain is in itself an antiseptic and will keep indefinitely.

Dr. PINCKARD referred to the new form of eucain called eucain B. He had found it very satisfactory, there being little or no pain attending its application. It will keep indefinitely and will stand boiling without changing its character.

On motion, the Society adjourned.

C. P. PINCKARD, M.D., Secretary.

103 State Street.

American Public Health Association.

Twenty-fifth Annual Session Held in Philadelphia, Oct. 26-29, 1897, at the Hotel Walton.

(*Continued from page 1118.*)

THURSDAY—MORNING SESSION.

After the usual announcements and election of new members, the following preamble and resolutions were presented by Dr. H. S. ANDERS of Philadelphia:

WHEREAS, The common and promiscuous public use of drinking vessels under existing conditions and well-established hygienic principles is positively and essentially unclean and insanitary, and therefore a menace to public health; and

WHEREAS, During the past three years many churches of various denominations have recognized the need of prophylaxis in administering the communion wine by adopting individual communion cups or chalices, as being cleaner and safer, at the same time not less satisfactory and sacred as substitutes for the common communion cup; be it hereby

Resolved, That the American Public Health Association in endorsing the individual communion cup, approves cordially the action of the churches, and recommends earnestly the adoption, for sanitary reasons, of individual communion cups wherever communion cups are now in use.

Resolved, That this Association recommends still more emphatically and urgently to the public the general use of individual cups, particularly in schools, on railway trains, in stations, at public fountains and the like, as contributory to the better prevention of communicable diseases.

This was referred to the Executive Committee.

The report of the Committee on Health Legislation was presented by Dr. H. P. Walcott, president of the State Board of Health of Massachusetts. It contained a proposed bill to establish a Department of Public Health to be under the management of a Commissioner of Health, who shall be a regularly graduated physician, appointed by the President of the United States, and whose term of office shall be six years. This was referred to the Executive Committee.

RECENT RESEARCHES UPON THE ETIOLOGY AND SPECIFIC TREATMENT OF YELLOW FEVER.

by G. M. Sternberg, M.D., Surgeon General U. S. A.

In a former paper he gave his reasons for believing the bacillus of Sanarelli to be identical with the bacillus X obtained by him from yellow fever cadavers at Havana. If this is not established, the claim of Sanarelli, that his bacillus is the specific infectious agent, can not be admitted. It must be the same in the fever at Havana and Rio de Janeiro. All his researches in forty cases during 1888 89, etc., show that no micro-organism other than bacillus X develops in the culture-media usually employed, except the colon bacillus and a few species exceptionally found and excluded from consideration for reasons formerly stated. The bacillus of Sanarelli readily grows in the culture-media employed in my researches and if present in the blood or tissues of the cadavers at Havana I could not have failed to find it. In stating conclusions I say: "The specific infection in yellow fever has not yet been demonstrated. I suspected at the time that it had been discovered in my bacillus X." After alluding to the association of the names of Eberth with the typhoid bacillus and Klebs with that of diphtheria as being in the same way shown by one but demonstrated by another, he said if my bacillus X and the bacillus icteroides of Sanarelli are proved to be identical, Sanarelli will deserve full credit for the demonstration and I shall not be disposed to detract from the praise due him. If, as he claims, he has obtained the final proof that this is the yellow fever germ by producing the disease in man as a result of the intravenous injection of filtered cultures, I think we must accept these as demonstrative of the bacillus in question. But without this final proof the demonstration would not be satisfactory, notwithstanding the pathogenic virulence of the bacillus when injected into several species of the lower animals. If it were constantly found in the blood and tissues of yellow fever cadavers there would be little reason to doubt its specific character. But both my researches and those of Sanarelli show that notwithstanding the most painstaking investigations this bacillus has not been found in a considerable proportion of typical fatal cases of yellow fever examined. I obtained bacillus X in a certain number of cases from the contents of intestines of yellow fever cadavers; but it was present in comparatively small numbers and I was more successful in obtaining it by culture in guinea pigs than in cultures directly from

the intestine. I suggest in my report that possibly yellow fever results from the absorption of a toxin produced during the multiplication of the specific germ in the alimentary canal. This is advanced as a hypothesis which has some facts in its favor. If, as stated by Sanarelli, comparatively small quantities of a filtered culture of this bacillus will give rise to yellow fever in man, when injected beneath the skin or directly into the circulation, this fact would appear to give additional value to the hypothesis. At all events, it would be very unfortunate if upon the strength of Sanarelli's negative researches sanitarians should neglect to disinfect the excreta of yellow fever patients. After alluding to the difficulty of isolating typhoid bacillus and yet that it could always be obtained by culture, he said: "It is evident that notwithstanding the negative results usually attending culture experiments, bacteria were present in the liver and kidneys and were developed postmortem when portions of these organs, enveloped in an antiseptic wrapping, were placed in an incubating oven. This method was followed by Sanarelli, but he neglects to refer to the fact that I had employed it in an extended series of cases or to my bacillus X, which was fully described in my official report to which he apparently had access, although he makes serious mistakes in referring to my work. Thus he says: 'Dr. Sternberg of Baltimore, author of the most recent, rich and methodical contribution to this disease known, declares that the specific microbe is yet to be found, and he affirms that the whole question is to be taken up *ab initio*.' This was not exactly my position, as I say I have commenced writing a report because I feel that an account of what I have been doing during the past two years is due, and not because I have brought my investigation to a successful termination, or because I feel that there is nothing more to be done. No one can regret more than I do that the question of the etiology of this fever is not definitely solved, but I have not to reproach myself with want of diligence or failure to embrace every opportunity. The difficulties are greater than anticipated. If the task had been to find an organism in the blood or in the organs, the researches could scarcely have failed to be crowned with success. But among the micro-organisms encountered there is not one which by its constant presence and special pathogenic power can be indisputably shown as the specific agent. Note that I say among the micro-organisms encountered there is not one which, etc., can be shown indisputably to be the infectious agent. But I carefully described one and sum up: It is possible this bacillus is concerned in the etiology of the fever. I hoped investigators would consider this possibility, no one had a right to ignore it, and continued investigations by the same method can not be considered as taking up the subject *ab initio*. Again Sanarelli says: 'Sternberg thinks there is probably a localized infection having its seat in the stomach.' This is a mistake. I advanced the hypothesis that the germ of the disease may be located in the alimentary canal, as in cholera, and the symptoms result from the absorption of a very potent toxin produced by it. But this is only a suggestion, and I know of no evidence indicating a localized infection of the stomach." After quoting further from his experiments, he says the writer has long been of the belief that the discovery of the germ of yellow fever would be likely to be followed by important results in the prophylaxis and in the treatment of this disease. He mentions some experiments upon horses, etc., and concludes: "Comparative experiments already made at the Army Medical Museum, by Major Walter Reed, show certain cultural differences between the bacillus icteroides of Sanarelli and my bacillus X. Whether these are due simply to the fact that bacillus X has been cultivated for eight years in artificial media, or are to be considered as evidence that we are dealing with two more or less permanent varieties of a single species, or are to be taken as evidence that the bacillus of Sanarelli is specifically distinct from my bacillus X can only be determined by further experiments, and especially relating to the pathogenic power of the culture obtained by me from yellow fever cadavers in Cuba, and by Sanarelli from yellow fever cadavers in Brazil. At present bacillus X is non-motile, while Sanarelli's bacillus is actively motile. But in my original cultures, as stated in my published report, bacillus X was motile. At present Dr. Reed informs me that the presence of flagellæ may be demonstrated by proper staining methods."

He had visited Cuba on two occasions, to learn for himself as much as was possible as to the correctness of his views as to yellow fever. He believed the bacillus of Sanarelli to be identical with his bacillus X described in his paper some years ago.

Dr. HENRY J. BARNES of Boston, read a paper

THE LACK OF PROPER HUMIDITY OF INDOOR ATMOSPHERE.

He alluded to the aridity of the West and said: Death Valley has an aridity of 23 per cent. for five months in the year. The mean relative humidity of the United States is 60 to 80 per cent. In the northern states in winter, when the houses are heated, there is no moisture provided and everything becomes kiln-dried. Air of a house should have 50 to 75 per cent. saturation. Many devices have been offered. A new plan has been proposed for large buildings by C. J. H. Woodbury. The humidifier is about twenty four inches square, the top and two sides solid, the third side a tight door, and the fourth or front part of openwork brass, the bottom open, the whole intended to stand over a register in the floor. One half of the interior is taken up with a galvanized water-tank, with broad edge at the top, on which rests a brass frame holding several rods at the top from which are suspended strips of cotton felt nearly the width of the tank and long enough to reach its bottom. The tank is filled with water and the strips become wet; the hot air coming through the register must pass these strips and are thus charged with moisture. Should the air of the room become too moist, as shown by the deposit on the windows, by a simple mechanism acting automatically, the strips are lifted from the tank, the air dries them, and passing round the room makes the amount of moisture right, and again the strips dip into the tank. He also showed a German machine which consisted of a trough, thirty inches long, from one end of which hangs a cotton sheet, and at the other end a shallower trough so adjusted that when dry the roll rests in the trough, but when the air is saturated the surplus water drips into the bottom trough and the weight draws the roll at the top out of the water to the edge of the trough where it remains till the water in the lower trough is evaporated, the weight is removed, and the cloth slips again into the trough. This becomes stained and rendered unsightly. With the humidifier first named, it was possible to obtain a mean of 73 per cent., the atmosphere comfortable. The window glass will always serve as a guide, and the machine will be sure to work automatically. He gave the results of a series of experiments at the Boston City Hospital: The average temperature was 69 degrees, the mean relative humidity 29 per cent.; out door temperature being 30 degrees, humidity 71 per cent. In his office, for eight days, the temperature was 71 degrees, humidity 27 per cent.; outside being 31 degrees, humidity 73 per cent. A draught given by a fan produces no refreshment during the saturated atmosphere of dog days, because of the incapacity of the atmosphere to extract heat by taking up moisture. High temperatures are enervating. The dry sirocco produces suffering, extreme lassitude, parches the skin and creates a raging thirst. Much time spent in heated rooms in winter is the cause of much of the catarrhal troubles so common during this period. Breathing an atmosphere that thus robs the mucous membrane of the lungs, etc., of the moisture needed to preserve its secretion, impairs the integrity of the tissue and gives a favorable soil for the development of infectious organisms. The frequent failure of the vocal organs of public singers and speakers may be the result of excessively dry air.

Dr. P. A. BRYCE, of Canada, read a paper on

THE PLACE OF THE STATE IN DEALING WITH TUBERCULOSIS.

Should any one inquire into the legislation of any State or Province on this continent, prior to the last twenty five years, he will be surprised at the paucity of laws dealing with any systematic plans upon social matters, or providing for systematic supervision of public health. In European countries, especially England, workhouses and dispensaries existed but they were established as a disagreeable necessity rather than because of the claims of the poor and sick upon the State. In Ontario the deaths from tuberculosis were, 1871, 11.2 of all deaths; 1881, 10.8; 1891, 11.4. In Toronto a similar condition is seen. In the United States we may divide the deaths as follows: North Atlantic division 2.2 per thousand of population; South Atlantic, 1.7; North Central, 1.3; South Central, 1.4; Western, 1.5. The quality of legislation must be judged by its effects. Compare the causes of insanity in the asylums of Ontario: In 1895 they were double the deaths by tuberculosis. But if we examine we find the deaths from consumption and those in the asylums are one-tenth the number annually. Roughly, ten times as many persons become affected with tuberculosis every year as with insanity and ten times as many die. Therefore, some 2,500 persons, mostly above fifteen years of age, are enrolled in the ranks of tuberculized, not to mention an undetermined number. The legislature of Ontario, in 1839, providing for a lunatic asylum levied a tax of one penny in the pound on the districts of the Province. In 1826 taxes had been levied to support Houses of Industry and for a district hospital. Year by year this was increased, but the systematic extension of any class of these institutions was

spasmodic till 1874 when Provincial aid was granted, upon government inspection, to the several classes of benevolent institutions. The extent to which they have grown is seen in Ontario: In 1874, 10 hospitals with grant of 30 cents *per diem;* 1887, 18 with the same; 1896, 39 with the same; 1874, 4 refuges with a grant of .07 cent *per diem;* 1887, 21 with the same; 1896, 32 with the same; 1874, 13 orphanages with a grant of .02 cent *per diem;* 1887, 29 with the same; 1896, 31 with the same. The increase of the population of asylums was 1,366 in 1871 to 4,709 in 1896. The total hospital population in 1878 was 4,372; in 1896 17,517. The inmates of refuges in 1878 was 1,300; in 1896, 4,355; orphanages, 1,300 to 3,995. The Annual increase in cost of maintenance was remarkable: Asylum in 1871, $173,611.11 to 1895, $595,843.13. The hospital, refuge and orphanage maintenance was equally remarkable. The population of the province increases slowly; 1871, 1,620, 851; 1881, 1,926,922; 1891, 2,114,321. It is quite apparent, therefore, that aid is extended to a certain percentage of consumptives in Ontario, but from the number of deaths it is apparent that they go to the hospitals to die rather than with any idea of recovery.

The greatest distinction must be made between governmental intervention for the sake of the people and State interference for the sake of the government. Is this expedient with tuberculosis? Is it practicable? Institutions partaking somewhat of the characteristics of each of the asylums, hospitals, refuges, etc. will be required. Medical relief to be complete must deal with this properly. The average number of days in hospitals of consumptives was about 50 in 1896, or about 20 days longer than for all patients. Manifestly, general hospitals are not the places for consumptives. Naturally we turn to the single illustration on this continent, an ideal home for them, the Saranac Lake Sanitarium, which under the fostering care of Trudeau has grown up, a type upon which all future efforts must be based. Ninety millions of people represented in this Association are interested in this matter. This is the fifteenth year of Koch's discovery. During this time 2,000,000 have died here from this disease and only one model home equal to the care of 177 people. Unfortunately the beginning has been due not to the State but to private philanthropy. In Ontario we are working. The cost has been for an average of thirty-four days residence, 64 cents per capita or $4.50 a week. At Saranac Lake it has been $6.00 a week. According to the same rate, in Ontario, it would be comparatively easy to have several homes for consumptives to which every tuberculous case could be sent in the initial stage and in a large percentage cured. What we may then advocate is for the government to loan money, as on drainage debentures, at low interest to cities and counties, pay a percentage of the maintenance, and then private charity added to municipal grants would accomplish the rest. The choice of location is important. To France we may look for the first systematic attempts to deal with a class of the tuberculized where a number of marine or seaside hospitals have been established for children. The statistics of 1894 show 70 to 75 per cent. of cures. In Germany, private sanitaria have taught how much can be done.

Dr. SAMUEL W. ABBOTT, Secretary of the State Board of Health of Massachusetts, read a paper on "Consumption an Indoor Disease." He gave the characteristics of the disease, showed it to be an indoor infection, the conditions which influence infections outdoors and indoors; relations to industrial hygiene; proofs of the proposition that it is an indoors disease, viz., observations on occupation mortality, and observations on mortality by sex and age periods; difference in the death rate from tuberculosis in the sexes and at different ages; comparative mortality from phthisis and lung diseases of men (45 to 65 years of age) working in pure and vitiated air, etc.

A paper, the "Necessity of Adopting an International Classification of the Profession," was read by Dr. J. MONJARAS of the Board of Health of the State of San Luis Potosi, Mexico.

Dr. S. A. KNOPF of New York City read a paper on the "Urgent Need of Sanatoria for the Consumptive Poor of Large Cities."

Dr. D. H. BERGEY of Philadelphia presented a paper on

BOVINE TUBERCULOSIS IN ITS RELATION TO PUBLIC HEALTH.

Tuberculosis in cattle is similar to human tuberculosis. This is evident from the fact that: *a.* The nature of the disease process is the same in cattle as in man, and *b*, we have evidence of the transmission of the disease from cattle to man through the use of meat and milk of tuberculous animals as food; and *c*, there is a possibility of the transmission of the disease from man to the lower animals by feeding them on tubercular sputa; and *d*, of the transmission of the disease from one class of animals to another by feeding on tuberculous meat and milk.

Each of these propositions is substantiated by numerous observations which have been reported during the last quarter of a century. The first proposition is so self-evident that it will be unnecessary to quote any authorities. Recent literature contains no dissensions from this proposition. The second proposition is supported by the clinical observations of Leonhardt, Sonntag, Hermsdorf, Demme, Bollinger, Stang, Holt and many others. The third and fourth propositions are supported by the clinical observations and experiments of Woodhead and Martin, Klebs, Demme, Bollinger, Nocard, Johne, Jacobs, Sonntag, McFadyean and a great many others.

The danger to public health through the use of meat and milk of tubercular animals is greater than is generally supposed, because: *a*, the disease is very insidious in its onset and for this reason it is long overlooked, and *b*, even when the disease is localized there is danger in using the meat, because: 1, the blood may contain bacilli in portions of the carcass other than those containing the tubercular nodules, and 2, because the milk may contain bacilli without there being any disease localized in the udder itself. We find numerous observations reported which substantiate these different propositions, notably those of Fütterer, Rütmeyer, Sticker, Ulacocis, Meisels, Lustig, Heller, Weigert, Nosse, Herzheimer, Hanau, Bangs and others in support of the first proposition, and those of Ernst of Harvard in support of the second proposition.

The facilities for the discovery of the disease in an infected herd are excellent since the introduction of tuberculin as a diagnostic agent. From the fact that the blood of an animal may contain bacilli and thus any portion of its body may become the carrier of the disease, that the milk of the animal may contain bacilli even without there being any disease observable in the udder by ordinary methods, it is highly essential that all cattle whose milk and meat are to be used for human consumption be tested from time to time with tuberculin, to be certain that they are free from tuberculosis. Several cities now have strict inspection of all milk cows furnishing milk for the people of the city (this is the case in Minneapolis, Minn., which has a very efficient law), and it will be of great interest to watch the beneficent results of such precautions upon the general health of such cities in the future. The benefit of strict inspection of cattle slaughtered for food is shown by the lower mortality from tuberculosis among the Jews in our American cities, as shown by the results of our last census. This fact is all the more striking when we consider that as a rule these people do not live under the best of hygienic conditions. Much good must also result from the efforts made to stamp out the disease in different States, notably Pennsylvania, by testing suspected herds and slaughtering all those showing the characteristic reaction under the tuberculin tests.

P. RAVENEL, M.D., presented a paper on

TUBERCULOSIS AND MILK SUPPLY.

Tuberculosis is the most widespread disease, both in man and in animals, with which we have to deal, causing in man one-seventh of all deaths. Among animals, the bovine species appears to be the most susceptible. Geographically considered, there is a close connection between the presence and absence of tuberculosis in man, and the presence and absence of diseased cattle. The disease is very prevalent among the dairy herds of America, and has increased during recent years. We may well ask if the disease is being transmitted through the milk of tuberculous cattle. The danger was pointed out by Professor Klencke in 1846, and confirmed by Gerlach in 1869. Since then numerous observers. All cases so far reported have been in children and young persons, and post-mortem examination of children dying of tuberculosis points to the intestinal tract as the most frequent channel of infection. In 127 cases examined by Dr. Woodhead, 100 showed tubercular infection of the mesenteric glands, and 43 ulceration of the intestine. Milk is so largely used by children, that one would naturally look to it as the conveyer of the infection in such cases. The suspicion is greatly strengthened by the fact that the tubercle bacillus has frequently been found in milk. It was formerly believed that this only occurred when the cow showed local lesions in the udder, but Baug, Ernst, Theobald Smith and others have shown that the tubercle bacillus may be found in the milk of cows having general tuberculosis, but the udder being healthy, so far as a careful examination could show. Beyond this, numerous feeding and inoculation experiments on pigs, guinea pigs and rabbits have shown that even when the udder is healthy the milk of tuberculous cows may be highly infectious. Galtier showed that milk is most dangerous where lesions of the udder exist, and next in general tuberculosis.

The disease as found in man and the bovine species is practically identical. Cases of accidental infection during post-mortems of tuberculous cows have been reported by Tscher-

ming of Copenhagen, Pfeiffer, Law and the author. In the case of Pfeiffer the disease became generalized in the course of about a year, and death resulted two and a half years after the wound. Inoculation of lower animals from man confirms these results.

The author gave reports of experiments carried out by himself at the laboratory of the State Live Stock Sanitary Board at the University of Pennsylvania. Of 88 animals treated by inoculation with milk from cows known to be tuberculous, 15.4 per cent. died of tuberculosis. All of the cows from which milk was taken had perfectly healthy udders, so far as the most careful examination could reveal. In the case of one cow a postmortem examination was also made. From these and other like experiments it seems that the number of tubercle bacilli in the milk of tubercular cows may vary from day to day. In conclusion the author said: "I have given in these pages only a part of the evidence that is at hand on the question, but enough has been said, I think, to show the soundness of the conclusions arrived at by the Royal Commission on Tuberculosis, that . . . 'as to the proportion of tuberculosis acquired by man through his food, or through other means, we can form no definite opinion, but we think it probable that an appreciable part of the tuberculosis that affects man is obtained through his food.'

"And 'No doubt the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter.'

"The remedy lies in the careful inspection of milch cows and the immediate removal of any diseased animals found. Milk from suspected cattle should be carefully sterilized before being used, and especially should not be given to infants or invalids. The inspections of the animals should be at intervals frequent enough to keep the disease from gaining headway before being discovered."

(*To be continued.*)

PRACTICAL NOTES.

Glass Tooth Filling.—Glass, prepared by a new patented process, which renders it soft and malleable, is now used by dentists to fill the cavities in teeth. It is said that it answers the purpose admirably and is less conspicuous than gold.

Treatment of Glaucoma with Resection of the Cervical Sympathetic.—Jonnesco has applied to glaucoma with excellent results, three cases, the operation devised for exophthalmic goiter. Sight was regained and the ocular tension reduced below normal.—*Bulletin de l'Académie de Méd.*, October 19.

Rupture of the Callus in Fractures of the Patella Treated with Massage.—An article in the *Gaz. Méd. de Paris* of October 23, reviews the ultimate results of massage treatment, as reported by Scandinavian, Dutch and German surgeons, this treatment not being popular in France, and finds eight ruptures in thirty-five fractures, a proportion of 23 per cent. Koenig rejects the method. The rupture always indicates a grave functional prognosis.

Mechanical Mobilization of Anchylosis.—Phocas attached the arm of a lad of 12 years 6 months to a slowly moving machine propelled by a hydraulic motor, and in this way broke up a fibrous anchylosis of the elbow consecutive to fracture. The patient can now bend his elbow almost at a right angle, fifteen days after commencing the treatment—thirty hours in all. Previous manual attempts at mobilization had always produced intense inflammatory reaction.—*Gaz. Méd. de Paris*, Oct. 23.

Postural Treatment of Seasickness.—Rawlins, an English physician, says that the elevation of the extremities will quickly relieve the symptoms of seasickness by increasing the arterial pressure, and thus diminish the anemia of the nervous centers due to the enfeebled action of the heart. The application of warm flannel bandages to the legs and arms will increase the effect produced by the simple elevation. In this way he was able to make two ladies comfortable during a journey to India, who had previously suffered seriously from severe seasickness. This is a corroboration of a remark made to the editor of the JOURNAL by the surgeon of the Nord Deutscher Lloyd Str. *Spree* in 1890. That officer stated that in his judgment the postural treatment was the most suitable for most cases, cerebral anemia being generally present.

The Rhythmic Contractions of the Heart originate in the cells of the myocardium in the form of automatic rhythmic impulses, corresponding to the rhythmic disintegration and integration of the contractile substance. It is communicated from one cell to the other and, by means of the sarcoplasma, to the entire heart. This statement is made by Botazzi as the result of much research. He adds that everything tends to prove the myogenic nature of the cardiac rhythmus and its independence of the nerve ganglia. His investigations are described in the *Gazz. d. Osp. e d. Clin.* of October 10.

Pills for the Treatment of Peri-uterine and Pelviperitoneal Effusions.—(N. Maldaresco.) Iodol, 6 grams; powder and extract of licorice, q. s. to make 60 pills. Commence with two pills morning and night and increase to five, equivalent to one gram of iodol a day. The pain will subside by the third or fifth day and the local process be resolved without keeping the patient in bed. After the effusion is absorbed the iodol should be continued for some time at the dose of 60 centigrams a day. Menstruation and pregnancy do not counterindicate its use. Iodism is never produced by it, even at the dose of 2 to 3 grams several days in succession.—*Sem. Méd.*, October 6.

To Prevent Recurrence of Erysipelas.—The germs lingering in the crevices after an attack of erysipelas only await a chance to germinate anew in all their virulence, and the frequency of erosions in the nose, ear or internal angle of the eye, due to the delicacy of the skin where it joins the mucous membrane, affords the germs their opportunity. Maldaresco has prevented recurrences completely by supplementing the cure with a thorough disinfection of the entire region, into its remotest crevices, preceded by several baths with general lotions of van Swieten's solution and repeated injections into the ears, nose and corners of the eyelids of van Swieten's solution, to every liter of which he adds 5 grams of tartaric acid. The intranasal injections can also be made with equal parts of water and 1 per cent. of sublimate.—Moscow Congress.

Empyema of the Maxillary Antrum in a Child of Eight Weeks.—Power (*British Medical Journal*, No. 1,917, p. 808) reports the case of a wasting boy, eight weeks old, who came under observation on account of an abscess which had pointed and was discharging at the lower part of the right lower eyelid. The right side of the face was somewhat fuller than the left and the skin of the lower eyelid and cheek was red and hot. A considerable quantity of pus could be squeezed out by pressure upon the cheek, and on looking into the mouth a small quantity of pus could be seen exuding from the alveolar border of the upper jaw. A probe passed along the sinus in the cheek showed that the upper part of the superior maxilla was bare. This sinus was enlarged, some granulation tissue scraped away and an opening made through to the floor of the antrum, so that a drainage-tube could be passed from the eyelid into the mouth. About a dram of thick pus came away at the time of the operation, but the child died ten days later. It was learned that forceps had been used at birth and that after delivery both sides of the face were badly bruised, the right more than the left. When the infant was a month old he seemed to have some difficulty in closing his mouth and he refused the bottle. About the same time the redness and swelling appeared below the right eye and eventually an abscess was opened. There had not been any case of infectious disease in the house.

Thymol as a Vermifuge.—Dr. F. M. Sandwith reports that for many years he has been using thymol as the most perfect destroyer of the ankylostomum duodenale and any accompanying parasites in the intestines of his Egyptian patients. Sometimes it takes many doses of the drug to rid a man of his last

remaining nematode, but the following case ought to encourage any doubters to persevere with the thymol treatment. A man, aged 33 years, was admitted from the out-patients April 29, 1897. He was a peasant from Assiout, but for the last two years had worked in Cairo. He was found to have anemia from ankylostomiasis of twelve years' duration, and for the last year he had had pellagra. On May 2 he was given 60 grains of thymol in two doses on an empty stomach, followed by a purge. In the feces that afternoon were found 523 specimens of ankylostomum duodenale besides fifty-five oxyurides. On May 7 the thymol treatment was repeated. No ankylostomum duodenale was found, but there were three oxyurides. On May 17 the thymol treatment was employed for the third time, but no worms were passed and no eggs were found microscopically. The three examinations in the case of this patient were made by Professor Looss of Leipzig, thus precluding all error, and it is fair to say that the cause of this chronic disease was removed by 60 grains of thymol. The patient was extremely anemic on admission, but three weeks later was much less so, owing to the administration of iron, rest and better food. His weight remained at 138 pounds before and after treatment. The symptoms of pellagra were a slight roughness of skin on the extensor surface of the hands, forearms, elbows, feet, legs and knees; the tongue pale and denuded of epithelium, and increased knee-jerks. He was sad and melancholy-looking and unable to smile, and there was tenderness on pressure over the spinal nerve on both sides of the fifth dorsal vertebra. Thymol has, of course, no direct effect on the poison of pellagra.—London *Lancet*.

Orthoform.—Einhorn, in the *Münchener Med. Woch.*, August 24, has described a new synthetic local anesthetic to which the name orthoform has been given. This body is a light white powder, without smell or taste. It is only partially soluble in water; enough is brought into solution to make the fluid anesthetic. It combines with hydrochloric acid, forming a very soluble compound, which can not, however, always be used, as it irritates some mucous membranes such as the conjunctiva. Anesthesia is only induced in the places with which the orthoform comes in contact. Orthoform acts as an anesthetic wherever it comes in contact with nerves, and thus it has no effect when applied to the unbroken skin. If it be applied to a burn of the third degree the anesthetic effect is remarkable. It also allays the pain of ulcers, whether cancerous or other. In one case as much as 50 grams was sprinkled on a wound within a week, showing that it is quite harmless. It is strongly disinfectant, hindering decomposition and fermentation. Orthoform was also useful in ulceration of the larynx, after some of the powder was blown in the pain was relieved for twenty four hours. In gastric ulcer and carcinoma it was also of service, but much less so in chronic gastric catarrh. For external use free orthoform is the best, but for internal use the soluble acid salt. Further observation is needed in regard to its action on the mucous membranes of the mouth, nose and nasopharynx. As it is non-poisonous, it can be applied to large ulcerating surfaces. Internally ½ to 19 of the hydrochlorate has been given several times in the day. Orthoform is stable, non-hygroscopic and can be added to other remedies.

Yeast Nucleinic Acid in the Treatment of Septicemia.—Several observations have been published on the treatment of pyemic affections by means of yeast and its preparations. In the *Medical News* is a paper by Dr. Walter Courtney on this subject. For the purposes of this article, Dr. Courtney defines septicemia as a general systemic invasion by one or more varieties of the pyogenic or putrefactive bacteria, their products, or both. Dr. Courtney had observed Dr. Vaughan's experiments with yeast nucleinic acid on rabbits and guinea-pigs which had been inoculated with the bacillus tuberculosis, the bacillus of tetanus and the bacillus anthracis, and in different animals. The inhibitory and frequently curative effect of the nuclein treatment of these various infections was most marked, and Dr. Courtney subsequently tried it in the treatment of patients suffering from septicemia. The results, as shown by ten cases published in full, were very satisfactory, only one case proving fatal; but, as Dr. Courtney candidly admits, the auxiliary treatment may have had something to do with the results; these aids were those "which effect free elimination by all of the emunctories that may be pressed into service, so as to rid the system of all the toxins possible," especially free purging. Dr. Courtney sums up his experience thus: 1. The yeast nucleinic acid should be given at the earliest possible moment that septic infection is suspected. The physician should not wait for the typical and classic symptoms as given by text-books. Dr. Courtney's observations have led him to believe that if delay is made until rigors, icterus, diarrhea, delirium or apathy, profuse perspiration and a foul-smelling and discharging wound are added to an abnormal increase in temperature and pulse rate, and a restless alertness on the part of the patient, to convince the observer that it is septicemia that must be dealt with, instead of surgical fever or something else, a serious waste of most valuable time must occur. 2. The nuclein should always, in septicemia at least, be given hypodermically if possible, in order to secure prompt action of the given dose. If the 1 per cent. solution is used, at least from 30 to 40 minims, undiluted, may be given every three or four hours.

Purpura Hemorrhagica with Multiple Infection.—Purpura, like many other terms, should no longer be regarded as a disease, but as a symptom. It may be found in a number of diseases. Of these the infectious form an important group. The following case, published in the *Montreal Medical Journal*, by Drs. Hamilton and Yates, is not only of great clinical interest, but a contribution to an ill-understood subject, the etiology of purpura hemorrhagica. A student, aged 22 years, healthy and well developed, noticed an eruption of bright red spots of the size of a pin's head, which began over the left ankle and then became numerous over both lower limbs. Three days afterward a few spots appeared on the arms and then on the chest. The abdomen remained free until the sixth day. A slight knock on any part induced the appearance of extensive and severe bruising. On the night of the fourth day, not having felt ill yet, he was awakened with coughing and spitting of blood. On the following day he lost large quantities of blood from the nose, mouth and throat, and felt for the first time weakness, rawness of the throat, and slight pains in the knees. On examination, the spots, which were also present on the face, were found to be hemorrhages. Here and there were larger purpuric areas varying in size and color. The conjunctivæ presented a few hemorrhages. The nose was slowly but constantly bleeding. The lips were of good color. The gums were not spongy. On the soft palate and left tonsil hemorrhagic areas were seen. The temperature was 102.8 degrees F., the pulse 100 and the respirations 24. The fundi were normal. Cultures of the blood were negative. The red corpuscles were 4,840,000, the white corpuscles 6,000, and the hemoglobin 87 per cent. The patient steadily became worse; the hemorrhages were persistent and intractable; hemoptysis, hematemesis, hematuria and melena occurred. The palate became sloughy and the eyelids became edematous. The temperature ranged from 99 to 104 degrees. Finally he became delirious and died on the twelfth day. A necropsy was made ten hours after death. There were many visceral hemorrhages. The cardiac vessels contained air and the right auricle was distended with gas. The great vessels contained mixed frothy clots. The liver was emphysematous and floated in water. The bacillus aerogenes capsulatus, the staphylococcus pyogenes aureus, and a small bacillus (which on inoculation proved fatal to a rabbit) were cultivated from the blood and viscera. The clinical picture was thus similar to that of an acute infection; between good health and death there was an interval of only eight days. From the history of the case it is hardly possible that the bacillus aerogenes capsulatus was the primary infection; possibly it was the staphylococcus.

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SATURDAY, DECEMBER 4, 1897.

SYPHILIS AND CIVILIZATION.

One of the most notable communications presented at the late International Congress at Moscow was that by the distinguished Austrian alienist, KRAFFT-EBING, on the etiology of progressive paresis. It created the more sensation from the fact that it coolly reported a pathologic experiment of a character that would of all others be likely to call out comment and reprobation from those who are always ready to criticise such attempts to increase our knowlege at the apparent expense of patients under medical care. A much less obviously equivocal one by a Baltimore professor has led to some severe comments from the other side of the water, and it is rather remarkable that thus far we Americans against whom Europe seems at present to have a general grudge on political and economic grounds, should have been so forbearing under a still more aggravating occasion.

While KRAFFT-EBING's experiment of inoculating paretics with chancre virus to demonstrate their non-inoculability by syphilis and hence their prior syphilisation, was certainly a bold experiment to report and certainly open to sentimental if not to other more weighty objections, it is a very interesting fact, and in the main, is strongly confirmatory of the opinion that is now all but general that paresis is a sequence if not a direct result of syphilitic infection in a vast majority of cases—indeed it may probably be said that it is such in all but very exceptional instances. His deduction from this with the other data we have on the subject that its two great etiologic factors are as he puts it, syphilisation and civilization, the stress of modern life acting on a system prepared by the results of earlier infection, is likely to be accepted as the correct one by alienists generally, though there are yet, and possibly may be for a long time in the future, some few who will reject it against all the weight of evidence in its favor.

In the *Gazzetta degli Ospedali* of November 7, MORSELLI reviews the general facts as to the etiology and extension of paresis in rather a striking manner. He quotes statistics to show that it is very markedly increasing in its prevalence; in Italy the number of known cases for example has nearly doubled in a little over one decennium, and in Bavaria it increased from 9.3 per cent. of all the insanity in 1869 to 23.2 per cent. in 1874; it is undoubtedly in his opinion the special "disease of the nineteenth century." He holds, moreover, with NAECKE, and in opposition to the French school, that it is a disease to which there is a special predisposition, not by a congestive heredity, but by general degenerative peculiarities which, it would appear, are becoming more common in our modern civilized populations, where the fierce struggle for existence is fought out under constantly and ever increasingly severer conditions than heretofore. Its immediate exciting cause is therefore the stress of modern life acting on a predisposed and weakened nervous organization, which is itself probably more or less the result of the same general conditions.

This alone, however, is not an efficient cause; there must be generally superadded still another, the toxin of syphilis, which renders the catastrophe more inevitable, and MORSELLI follows KRAFFT-EBING in his etiologic duet but reverses the order, making it civilization and syphilis, inasmuch as the greater diffusion of the latter is, with that of alcoholism, the direct result of the former. As is often said, the modern man of the present day undergoes a very much heavier strain on his nervous system than did his predecessors of a century, or of even less than that, before him, and with each advancing decade this stress seems to be steadily on the increase. With this increase of mental and nervous strain there is also an increase of luxury which with its attendant urban concentration and sexual excess has made syphilis more common in the population of the civilized world than was heretofore the case. We have therefore the requisite conditions which combined tend to the increase of paresis, and such is their inevitable result.

As MORSELLI points out, we can see no immediately effective remedy for the great predisposing and exciting cause of paresis, the special character and peculiarities of modern civilization which aggravate the struggle for existence and at the same time increase the tendencies to degeneracy which predispose to paresis. We must, it would appear, wait for the social evolution and human development that ought in time to bring about a better equilibrium and re-establish what, borrowing an engineering term, we may call the normal regimen of humanity. But as regards the

specific predisposition, it would seem that more is possible; certainly more public effort can be exerted to check the spread of syphilis than is being done at present. We have not long since realized that all venereal diseases are disastrous and hence have more than ever reason for desiring their suppression. If it is generally admitted, and this seems to be probable, that syphilis once acquired, no matter how thoroughly and successfully treated, leaves behind it a possible liability to the most formidable of brain affections, paresis, we have another strong inducement for additional measures to check its extension. The social evil in the light of modern pathologic research is ever becoming more and more an important social question, if not the most important one of the time. How it is to be settled is a problem in the solution of which our profession can aid by showing the ever increasing need of its abatement or suppression.

THE HUMAN NEUROGLIA—GLIOMA AND NEUROGLIOMA.

The neuroglia has been a peculiarly elusive tissue; it has been beyond satisfactory reach and study by means of the ordinary histologic methods, and the numerous silver precipitations that go under the name of the Golgi method have given pictures that have been rather confusing as regards the correct interpretation of the structural details. The appearance of CARL WEIGERT'S[1] recent monograph embodying the results of his long-promised special neuroglia stain, and the independent technical publications of similar bearing by FRANK B. MALLORY[2] of Boston, have thrown much new light upon the neuroglia. These two investigators have, through the use of special methods, reached the same general conclusion, namely, that the neuroglia cells and neuroglia fibers in the adult human central nervous system are separate and distinct. This conclusion has been opposed, it is true, by H. STROEBE[3], but whatever the ultimate outcome of the controversy may be, it will remain evident that the significance of these new methods is extremely great, because they appear to furnish what has been long needed, namely, a definite and reliable special method of studying the normal structure as well as the pathologic changes of the neuroglia, and there seems to be some hope that the problems connected with proliferation of neuroglia, for instance, may now be intelligently taken up with the promise of decisive results.

In the *Journal of Experimental Medicine*, Vol. II, No. 6, occur two contributions with illustrative figures based upon the study of tumors of the brain, in which some of these questions in regard to the structure of the neuroglia, neurogliar proliferation, and the relation of neuroglia tumors to other tumors are discussed in the light of recent developments.

Drs. H. M. THOMAS and ALICE HAMILTON describe the clinical course and the pathologic histology of a tumor involving the ascending frontal, ascending parietal and the third frontal convolutions in a man aged 38. At the present time attention is directed solely to certain facts in connection with the histology of the growth.

The tumor was very cellular and presented a great variety of differently shaped cells, of which there could be recognized two quite distinct classes; one characterized by very faint outlines and a faintly staining protoplasm, exceedingly delicate processes, if any were present at all, and often slightly stained nuclei; the other class was distinguished by granular protoplasm, distinct outline, thicker processes, and usually a deeply stained nucleus. In addition there were normal neuroglia cells and spindle cells, some of which had single, or bunches of, long processes. There were also cells with many nuclei.

The blood vessels were not very numerous in any part of the tumor and usually the walls were thickened by the presence of spindle cells. Medullated nerve fibers were found in all parts of the tumor, as well as naked axis cylinders. The tumor occupied essentially the subcortical white matter.

In considering the value of this growth and the class of neoplasms to which it should be assigned, the question resolves itself into that of neuroglioma or gliosarcoma. In the older literature the majority of the richly cellular tumors in the central nervous system were looked upon as either partly or purely sarcomatous, or at least closely related to sarcoma, because the neuroglia was at that time looked upon as one of the forms of connective tissue and as mesoblastic in origin; a glioma therefore belonged to the mesoblastic tumors, differing from sarcoma only in having its origin in the modified stroma of the nervous system, resembling neuroglia in its structure but capable of passing gradually into pure sarcoma. Thus, for instance, FLEISCHL[4] proposed to abandon the term glioma, because it simply meant a sarcoma which had its origin in the neuroglia. With the establishment of the epiblastic origin of the neuroglia, however, the distinction between the different forms of new growths in the nervous system can be more closely and logically carried out. It follows that all connective-tissue growths in the brain must originate either in the cerebral membranes or in the vessel walls. While the belief is gradually gaining ground that the majority of all tumors in the central nervous system are gliomata or neurogliomata, yet the possibility of a mixed growth, in which the cells of the vessel walls participate, is admitted. It would therefore be logical to restrict the term glio-

[1] Beiträge Zur Kenntniss der normalen menschlichen Neuroglia, 1895.
[2] Centralbl. f. allg. Pathol, u. path. Anatomie, vi, 753, 1895.
[3] Ziegler's Beiträge, lxviii, 405, 1895; Centralbl. f. allg. Pathol. u. path. Anat., vii, 864, 1896.
[4] Wiener med. Jahrbüch., 1872.

sarcoma, hitherto so freely employed to tumors of undoubtedly mixed origin. The difficulty of applying this rule is undoubtedly great, but in the future the term gliosarcoma can certainly not be so loosely applied as has been done heretofore, as witness the statements in our text-books. It is, indeed, doubtful that a typical case of gliosarcoma has yet been reported, and the new growths in the brain composed of glia cells, normal or atypical, must be designated as gliomata and assigned to their proper place in our onkologic classifications, namely, as a variety of the epiblastic tumors.

The so-called neuroglioma has the same essential origin as other gliomata; the pre-existing ganglion cells can not be regarded as able to proliferate, but the cells of such tumors may be looked upon as representing earlier or later stages of the development of the originally indifferent embryonic cells in which the process started. Atypical ganglion cells, as well as atypical neuroglia cells may therefore occur. In the present case the tumor described can not, in the light of these considerations, be classified otherwise than as a neuroglioma; the great variety of cells, the presence of giant cells, the irregular ganglion cells, bear out this conclusion.

It is interesting to note the observation made in this case that nerve fibers may pass through such tumors apparently unchanged, some perhaps losing their medullary sheaths. This fact explains the absence of degeneration of neuron tracts occupied by such growths.

In the same number of the *Journal of Experimental Medicine*, Dr. EDWARD WYLLYS TAYLOR contributes a study of the human neuroglia, based upon the histologic examination of two gliomata with MALLORY'S and WEIGERT'S neuroglia stains. TAYLOR also reaches the general conclusion that the term gliosarcoma should be dropped, because it is unscientific and misleading in its significance.

In the first case examined by him he was able to demonstrate that there is a definite chemical difference between neuroglia fibers and the protoplasm of the neuroglia cells. The disputed points referred to in his study are the following: First, what is the relation of the fibers to the cells; and, secondly, if the fibers are completely differentiated, how and at what stage of their development do they become so? Are there cells which may be regarded as transitory forms? In the first tumor there was an enormous development of fibers as compared with cells; the fibers were of such density, arrangement and caliber, that it would be difficult to understand how they could all be connected with cells. The impression is gained that WEIGERT'S view that the fibers are distinct from the cells is the correct one, at least as regards what may be designated as mature and differentiated glia tissue.

TAYLOR made a painstaking study with the end in view of discovering cells still in continuity with fibers and, in the parts of the tumor where the fibrous network was least dense, he discovered occasional elongated cells, from one pole of which came off tapering processes that stained in a way similar to the protoplasm of the cell body, and the conclusion seemed justified that such fibers were direct outgrowths of the cells.

In the second tumor the structure was composed largely of cells of a transitional type; differentiated fibers in WEIGERT'S sense, *i. e.*, separate from the cells, were not discoverable by means of the special stains. The tumor is therefore looked upon as a young growth, consisting of cells with undifferentiated fibers. As the growth would become older there would be expected the manifestation of a tendency to the formation, according to the argument followed, of differentiated fibers that subsequently might come to be the predominating structural element. Hence TAYLOR'S general conclusion is that the development of neuroglia, in all probability, is from cells with protoplasmic processes, to cells with differentiated and independent fibers, and herein lies the possible reconciliation of the conflicting views of STROEBE and WEIGERT concerning the ultimate structure of human neuroglia.

Finally, it is well to emphasize once more that the recognition, through the studies of W. HIS, CAJAL[5] and others, of the epiblastic origin of neuroglia, has led to a fundamental change in our conception of this tissue, both in its normal and its pathologic conditions. Thus, for instance, in speaking of those morbid processes that are so peculiar to the nervous system, namely, the so-called scleroses, the term connective tissue in its every-day significance must be dropped, because it is unnecessary and misleading in that it suggests a tissue of mesoblastic origin. The small part which mesoblastic connective tissue plays in proliferative processes in the central nervous system is gradually being recognized. Neuroglia, from a histogenetic standpoint, has no affinity whatever with ordinary connective tissue, but it is very interesting to note the fact that WEIGERT places so much stress on, namely, that its function in the nervous system is precisely that which belongs to connective tissue in the case of other organs. Further, with these two points in mind, the theoretic and practical confusion regarding gliomata and sarcomata ought to be easily avoided.

The term gliosarcoma, which still maintains its place in most of the text-books, as a definite form of new growth, should be dropped, and the placing of glioma among the mesoblastic tumors as is currently done in the onkologic classification of our text-books, is manifestly incorrect, because glioma is an epiblastic tumor.

[5] Taylor, loc. cit.

AN INFANT INCUBATOR.

Whether the real interests of a race or people are better subserved by the preservation of its feeblest members is as much a matter of question, as whether it is the part of true humanity to prolong the days of a hopeless sufferer from an incurable, revolting, agonizing disease. A young and gentle mother develops cancer of the spinal cord after the very thorough removal of an affected mamma two or three years before, lies paralyzed in her lower extremities for many months, later has one thigh rigidly flexed upon the chest, suffers excruciating pain requiring heroic doses of morphia, is absolutely helpless, and repulsively unclean to herself and her family, and is only kept alive by the hypodermatic administration of brandy, while the disease progressively, but with appalling slowness involves the neighboring bones and flesh. Her doom is beyond human interference. Is it more merciful to cease to interfere and let nature end her frightful suffering, or to go on keeping the heart mechanically pumping and the sensorium acutely sensative—a refinement of torture akin to that by which the victim of the rack or thumbscrew is kept alive to endure awhile longer? So shall the little pound or two of cold blue-black humanity prematurely ushered into the world, be coddled and nursed into animate being, or shall the tiny spark be allowed to die out without effort to enliven it? Many intelligent men and women have lived, who would not had this been done. A prominent medical officer of the United States Navy used to attribute all his physical ailments to the fact that he had been cheated out of more than two months' intra-uterine preparation for battling with the outside world, and who, when born, was literally "put into a pint pot," yet he lived past middle-age, was well-deserving, respected and honored, but died insane. Whether these are only isolated instances which are counterbalanced by an excess of weakly survivors can not now be confirmed by statistical evidence, and until it is established that it is better to let the prematurely born die from inanition, the effort will continue to be made to keep alive these little waifs which have come before their time, and there is now in operation in the city of New York an establishment where this is being done under conditions that can hardly be improved.

At No. 2 West 18th St., in a building that could hardly be better adapted for its purpose had it been so designed, instead of as a summer-garden and dining-hall of the Hotel Logerot, there has been instituted within a few weeks a branch of the *Maternité Lion* at No. 26 Boulevard Poissonnière, Paris, itself an outcome of the *Œuvre Maternelle des Couveuses d'Enfants* established at Nice in 1891 by M. ALEXANDER LION, a philanthropist of that city, by whom the apparatus and its application were devised. The low birth-rate of France has stimulated efforts to save every child born. From fifteen to thirty per centum of the annual birth-rate, according to place and local conditions, amounting to nearly 150,000, are born prematurely, and besides these 50,000 more which have reached full term are so feeble that they do not survive the earliest days of babyhood. To check this serious mortality French scientists have sought effective artificial means for the incubation of prematurely and weakly born infants. In 1857 Professor DENUCE of Bordeaux, produced the first incubator, and in 1880 Professor TERNIER, whose apparatus was improved by Dr. AUVARD and introduced at the Maternity Hospital in Paris, established the feasibility of saving infant lives by artificial incubation. The *couveuse* of M. LION, however, is the most satisfactory apparatus yet proposed, and since its installation at Nice in 1891 it has been awarded a silver medal in the Section of Medicine and Surgery at Lyons, 1894, the *grand prix* at numerous European expositions, and has received a first prize and gold medal at the Nashville Centennial.

The New York incubatory is a model of cleanness, neatness and elegance. The accessories of furniture and ornamentation are in admirable harmony with the beautiful little cages on three sides of the room in which nine mites of mortality were quietly sleeping, one of whom a week before was as cold, blue-black, and altogether unpromising a subject as could be imagined, requiring artificial respiration, but now with as assured a tenure of life as the other eight who were all seven months' children.

The incubator, which is supported on a metal stand, is essentially a metal box, with a glass front and side and within it, suspended by springs, a finely woven wire hammock containing a down mattress on which the baby lies in an atmosphere previously filtered, admitted through a three-inch metal pipe and discharged through a chimney of the same diameter surmounted by a fan indicating by its rotation the strength of the air current, which is warmed by means of a syphon through which water heated by a small cylindrical boiler at the right hand of the incubator, constantly circulates, the temperature being automatically regulated by a thermostat. A thermometer at the level of the infant's head is in sight through the glass door, through which the child is always visible.

It is important that the infant should be placed in the incubator immediately after birth. Every minute that it is exposed to the variations of external temperature diminishes its chance of life. The babies are fed by carefully selected wet nurses in an adjoining "nursing room" (*salle d'allaitement*), where every two hours they are taken from their cages, being first covered with a blanket, washed, cleansed and fed, and are then carried back to their little hammocks to sleep tranquilly another two hours in an atmosphere of unvarying temperature. A careful record is kept of the daily morning weight before feeding.

The official report of the physician inspector for the protection of children at Nice of the parent establishment at that city, which is conducted under the joint patronage of the municipality, the council general of the Departement des Alpes Maritimes and the ministry of the Interior of France, shows that "from October 29, 1861, to December 15, 1894, this institution has received 185 infants prematurely born, weighing from 1¾ pounds to 6 pounds 6 ounces; of these 133 left the institution healthy and in good condition (a proportion of 72 per centum), forty-eight died and four were still under treatment and were progressing favorably. The following tabular statement exhibits the relation of weight at birth to viability:

Weight at Birth.	No.	Survived.	Died.	Percentage Saved.
1¾ to 2¼ lbs	6		6*	
2 lbs. 3¼ oz. to 3 lbs. 5 oz . .	36	18	18	50
3 lbs. 5¼ oz. to 4 lbs. 7 oz . .	72	52	20	72
4 lbs. 7¼ oz. to 5½ lbs. . . .	54	49	5	90
5½ lbs. to 6 lbs. 6 oz . . .	14	14	0	100

*All died on day of birth.

Of sixty-two prematurely born infants received at the Paris maternity, fifty-one (eighty-two per centum) were successfully nurtured. Six of the eleven who died weighed less than two pounds, and their cases were almost hopeless. The others were brought in too late, having been thoroughly chilled.

Results so encouraging commend the system to a fair trial in our own country for the little unfortunates whose fault it was not that they have come too soon, but having been engendered have doubtless the same inherent right to live as their more robust brothers and sisters.

VACANCIES IN THE NAVY MEDICAL DEPARTMENT.

A subcommittee of the Parliamentary Bills Committee of the British Medical Association has made a report on the condition of the Army Medical Staff, the causes of its present inefficiency and insufficiency, and the reforms needful to improve it. Military as well as medical journals discuss the subject as one of the utmost importance to the army and to the country. Numerically the Army Medical Staff is at present eighty short of its authorized total of 891 officers; and the men who come up for examination to fill the vacancies are by no means of a high standard, professionally. In August last only twenty-two men presented themselves to "compete" for thirty-six vacancies; nineteen of them were accepted. Of the last batch who passed through the Army Medical School at Netley the man who stood highest on the list of Army Medical Staff graduates had lower marks than the last man of the list for the Indian Medical Service. It is well recognized by military men that the Army wants "the best stamp of medical men that the schools turn out"; but it is not obtaining them nor is it likely that it will obtain them until the status of medical officers as to rank and title is so defined as to place them on an equality with other officers of the Army. At the present time they have cumbrous titles, such as BRIGADE SURGEON, LIEUTENANT-COLONEL SO AND SO; but they have no rank, neither real nor relative. They are satisfied with their pay and pension, but are discontented with their practically civilian status, which in camps and garrisons is no status whatever. There are other causes of discontent, such as the difficulty of obtaining leave of absence, always great but now impossible, on account of the depleted condition of the department and the frontier and plague service in India, which require the presence of every medical officer at his post of duty.

Our own Naval Medical Department has for a long time been suffering from a grievance somewhat similar in character, but not so aggravated, which is necessarily beginning to tell on the *sufficiency* of its membership. The department is at present 17 short of its authorized total of 170 officers; but the pressure of want is not yet so great as to suggest the lowering of the standard for entrance. The *efficiency* of the membership has not therefore been impaired. Naval medical officers are satisfied with their pay, but dissatisfied with their position. The young medical man ranks as an ensign for the first three years of his service, a lower grade than is offered to the passed candidate in the Army; and although the law provides for his promotion to a passed-assistant surgency with the rank of junior lieutenant, a certain clause of it deprives him of this rank until all line officers who antedated his entry into the service have attained it; and again when he is a surgeon in his own corps his relative rank continues to be that of lieutenant until all the line officers aforesaid have become lieutenant commanders. There are some other grievances, but those affecting rank and status are the chief. The engineers of the Navy suffer from a similar injustice, but a board of officers has recently been appointed by the Secretary of the Navy to formulate a plan which will be satisfactory alike to the engineers and the officers of the Line. Should this, as now seems likely, be effected it will only be a question of time before the injustice affecting the Medical Department will be met and recognized and remedied. Our Navy is now at the beginning of a new era in its existence. The construction of new and powerful ships is progressing rapidly and the personnel must in time be increased to meet the necessities of modern service. The members of the Medical Department will no doubt have many opportunities to distinguish themselves and their service in the future history of our new battle ships. On this account and notwithstanding the discontent among naval medical officers, it seems that now is a favorable time for young graduates of medicine possessing the necessary qualifications to enter the service. The next candi-

date who satisfies the Examining Board now in session in Brooklyn, N. Y., will immediately be sixteen files from the bottom of the list; and as to the question of rank we in this country have not that conservatism which in England continues an injustice indefinitely, because a change is needed to remedy it.

CORRESPONDENCE.

Department of Public Health.

PENSACOLA, ALA., NOV. 24, 1897.

HON. FRANK S. GARDNER, Secretary New York Board of Trade and Transportation, New York City.

Dear Sir:—In response to your inquiry concerning the efficiency of the Marine-Hospital Service in the conduct of Federal health affairs, I forwarded you some days ago copies of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, the *Florida Times Union* and *Citizen* and *New Orleans Times Democrat*, as I was not able to reply immediately on account of certain professional engagements. I desire now to answer your queries briefly, but by the presentation of such facts only as may not be successfully controverted, and which are detailed without malice toward any one, or animus of a personal character whatever.

The first objection to be urged against such control of our health affairs by this service or branch of the Federal Government, is one relating to its organic construction. You are doubtless familiar with the fact that only applicants between the ages of 21 and 28 years are examined for admission to this service, and you may easily infer that 98 per cent. of them have never had experience with epidemic diseases such as are likely to prevail at any time in our country. That they may be skilled in bacteriologic lore, I will readily admit; that they are without practical knowledge of any epidemic diseases, they are, I am sure, also honest enough to confess. Thus, a young graduate from a Maryland, Michigan or Massachusetts medical college, standing an excellent but purely theoretical examination before the Board of Examining Surgeons, is dispatched by his Chief to preside over the health destiny of New Orleans, Galveston or Mobile, with no more knowledge of the character of the prevailing diseases or the commercial necessities of the people, than an Ashantee Chief possesses of the military strength of Gibraltar.

The second objection is largely an emphasis of the first, relating however more nearly to the fact that these officials are taken indiscriminately from every part of the United States, less than 5 per cent. of them belonging south of latitude 37, or that area of the country likely to be invaded by yellow fever—our most common and most dreaded foe. Less than 10 per cent. of the regular force of the service have had any experience with these diseases, and less than 3 per cent. are regarded by sanitarians or the general public as possessing any knowledge of this disease whatever. Possibly 2 or 3 per cent. may have acquired immunity from the diseases incident to the South, either by residence or a previous attack of such disease. What a commentary upon the much advertised and magnificent equipment of this service for the health preservation of our country!

The third objection is one relating largely to the autocratic management of this service. Its officials are responsible to no one save the head of the Bureau at Washington—a Cæsarian system of government. See the utter disregard manifested for the health of the people in Georgia in 1893, when the medical officer of the service at the quarantine station sickened with yellow fever (the first victim), was removed to the principal hotel of Brunswick, where he died, and an epidemic of the dread disease followed. Witness the humiliating spectacle of Mississippi's delegation in the Federal Congress pleading in vain for the removal of a near and constant menace to the health of their beloved State—the Ship Island Quarantine Station; then ask yourself if the Czar of all the Russias could lend so deaf an ear to the plaintive wails of his humble subjects!

The fourth objection is one based entirely upon the past inefficiency of this service as compared with the alleged weak control by the State. Twice in four years, at quarantine stations operated only by the authority of this service, yellow fever has gained entrance to our country, put to flight its people and ruined its commerce; whereas, under the management by the much-despised State Boards of Health of quarantine stations, exclusively in their possession, no such invasion has occurred for nearly twenty years, save in Florida, and there not since the creation of the State Board of Health some nine years ago. These are cold, stubborn facts, the proof of which, if desired, can be obtained from contemporaneous authorities, or the archives of the Marine-Hospital Service at Washington.

That this service is equipped in any manner save in the possession of a magnificent bacteriologic laboratory for the protection of the people of the United States against the invasion of epidemic diseases, it were sheer folly to contend. That it is thoroughly equipped in this one particular, I am willing to believe, but I still maintain that the use of a few grains of common sense in the management of Federal quarantine matters, is worth barrels of gelatin culture, uniquely prepared and labeled, for the inspection of the distinguished microscopist, while helpless communities are being ravaged by pestilence and panic.

It is not my object or purpose to hold the head of this Bureau, Dr. Wyman, responsible for its many defects, as I consider most of them organic in their character, and far beyond the reach of any reform measure he might desire to institute. It is as impossible to unite a sailors' hospital service and the health affairs of this great country, as to mix oil and water. The attempts of the future in this direction will show as dismal and disastrous failures as those of the recent past, and I believe the history of the world does not present a parallel to so gruesome and absurd a system. Let us try, however, to obtain a system wherein are combined the wisdom and judgment of the State in the matter of the appointment of its own citizens to these responsible positions, and the enormous power of the general government to control and direct the operations against the common enemy. Let us have a Marine-Hospital Service and its capable ministrations to sick seamen, but let us also have a separate department of public health, composed of men only of known ability and experience in such matters, whose sole object and aim shall be the promotion of the health interests of the entire country.

If this can not be done, for one I shall prefer a continuance of the control over maritime quarantine by the State, to the exercise of these powers by a service so incongruous and so unsuccessful as this autocratic Bureau of the Treasury Department has demonstrated itself to be.

The idea of a Department of Public Health has taken a firm hold upon our people; from North, South East and West come endorsements of such a general system; marked by many differences of opinion, it is true, as to minor details, etc. The press of the country almost without exception commend such a course; commercial organizations approve of it enthusiastically; and the two great bodies of advanced scientific thought on this Continent—the AMERICAN MEDICAL ASSOCIATION and the American Public Health Association—have given it an unqualified endorsement. So far as my information extends, the sentiment in favor of the supervision or control of the public health, both maritime and domestic, by the Federal Government, is overwhelmingly in favor of such a system as is diame-

trically opposed to the management of the Marine-Hospital Service; and I believe such opinions will assume a concrete form not differing materially from the ideas embodied in Senate Bill No. 2343.

I desire to publish this communication, as I believe it more fully emphasizes my position than any other communication which I have written. Very truly yours,

WARREN E. ANDERSON.

The Editor and the Contributor.

NEW YORK, Nov. 27, 1897.

To the Editor:—At the top of an editorial page, one occasionally meets with such a declaration as: "Original communications are received only when exclusively contributed to this journal." Yet the editor himself, who rejects what is not exclusively given to him, will contribute a paper to a European Medical Congress, to be published in the transactions of that Congress, and will, ten days before the Congress meets, forestall its publication in Berlin by publication in his own paper. Another editor of a medical publisher's paper, rather than take sides against an authoritative body, which might hurt the publisher's interests, will smother the *right* side of a controversy by refusing to publish a paper, on a plea that there are in it no facts not generally known. This editor adds that these same facts are not accepted with unanimity. Does he mean that he will not publish any facts which are not accepted with unanimity? A medical paper is for medical discussion, and both sides should be heard.

To whom does a contribution, not paid for, belong? To the medical publisher, to the editor, or to the contributor? Whose interest is to govern the publication of a paper, the publisher's, the editor's, or the public's?

Why should not a contributor be at liberty to present his side of a question to as many audiences as he can find and thinks fit? If a subject is only of municipal interest, let it be published in the city alone. If the author believes it to be of National interest, why should he not publish it in as many States, in as many journals as he can? If the subject is of international interest, who shall blame him if he desires to make himself heard, or read, in French, German, Italian, and every language spoken? The subject which the contributor is to confine exclusively in a local paper, may be too big for it and be stifled in its paltry circulation.

Of course, the contributor thinks only of his subject; the scientific interest is his criterion. The editor thinks only of the advantage of his paper, or of that of the medical publisher who owns it.

If an editor insists on having papers exclusively given to him, let him pay for them as other scientific or literary papers do. That creates a right which nobody could contest.

Are not the following things strange, and even funny?

1. A medical editor seems to be sincerely convinced that an author who makes him a present of an article, acts dishonorably if he publishes the same article in another paper, and even in another country. Yet he has not paid a cent for that article, conceiving it to be honorable enough to receive gratis the result of another's labor and enrich himself by it.

2. The owner of the medical paper is not content with thus appropriating, without remuneration, the work of another; he stamps it emphatically as his own, in every manner and for all time; in other words, he copyrights it. After this remarkable operation, the work of the author's brain (not sold, not paid for) is forever divorced from him; and if he was foolhardy enough to republish it, he would be considered as a kind of a thief, having robbed a stranger of his (the author's) own property.

Let any impartial person, lay or professional, say whether this is not odd? ALBERT S. ASHMEAD, M.D.

The Dixon Case.

ROCK ISLAND, ILL., Nov. 22, 1897.

To the Editor:—About a year ago I received a letter from a Springfield, Ill., physician asking me to contribute to the expense of carrying the Dixon case through the courts until a decision by the supreme court was obtained. I declined to do so except with the understanding that if the verdict should be against us that an effort would be made to organize the physicians of the State of Illinois pledged to fight everything that was against us, for I was quite sure that the decision in that case would be against us, when we would be worse off than we were before if we let it go at that. I received no reply to my letter. The reason for my belief that the decision would be against us was this: Probably twenty-five years ago Dr. Patrick Gregg of this city refused to testify in a case similar to that of Dr. Dixon. Judge Pleasants was on the bench and the matter was submitted to him. He took his time, considered it thoroughly and gave an opinion practically the same as that of Judge Creighton. Judge Pleasants was at that time considered one of the best jurists in the State. Dr. S. C. Plummer of this city is still living and probably remembers the case. At the time the Dixon case was pending, Judge Pleasants was one of the Springfield appellate court. Considering the circumstances it looked like running into a loaded gun. The medical profession, however, ought to organize. They educate themselves, pay for it themselves, do more for the public gratuitously, and do it cheerfully, than any other profession. Still there is no body of men of their numbers in existence that receive the kicks and cuffs that they do. It is not right and we should not stand it. We can organize in this State a body of five thousand men as solid as a rock, ask for nothing but what is fair, but plump our solid little army fair and square against anything that attempts to hit us. Then, and then only, will we be considered a factor that had better be respected.

Yours truly, G. G. CRAIG, M.D.

Edema Universalis?

DETROIT, MICH., Nov. 23, 1897.

To the Editor:—Joseph Zeisler, M.D., comments on my short note by correcting my Latin orthography or grammar, and suggests that the case of general edema spoken about is in all probability due to "sclerema neonatorum."

Now, I am glad indeed Joseph Zeisler, M.D., has given me a lesson in Latin and discussed the subject. I admit my error and apologize for the occurrence, it being an oversight rather than anything else, for again and again I have used *edema acutum*, etc. While writing down my note, I must have had in mind edema arsenicalis. While *edema universale* is correct in science, by the way, grammar, as far as a describing adjective is concerned, is not always adhered to, this being illustrated in botanic terminology.

The Doctor furthermore criticises the meagerness of the description. That the description of the case was meager I admit, but inasmuch as I have not examined the blood, secretions and excretions save the urine, which proved normal, I have nothing further to offer.

The case, however, was not one of sclerema neonatorum. If it were, I know as well as does Joseph Zeisler, M.D., that there would be no need inventing a term or name for it, science having already provided one for it, viz., edema algidum.

I suggested the name of "universal edema," but if I were to write again, I would add the word "idiopathic," because no cause for it could be ascertained.

Dr. GUSTAVUS BLECH.

Alcohol in Health and Old Age.

PITTSBURG, PA., Nov. 23, 1897.

To the Editor:—The article in the JOURNAL Nov. 20, 1897,

"The Needs and Rights of Old Age," by Dr. I. N. Love, I read with much interest. One of the questions which he raises in the article, "Is moderate drinking of alcohols conducive to health and old age?" is of sufficient interest to the readers of the JOURNAL to call for an expression of opinion on this subject. I know how difficult it is to prove a negative. I think many of the medical profession as they tread along in life's journey assume to believe in the different periods of life's duties, first in youth, that alcohols do no harm and make the heart glad, and second, they in middle age believe they (alcohols) increase the advoirdupois, while third they in old age believe total abstinence is conducive to a prolongation of life.

My own opinion is that every drink of alcohol is but adding one nail to the coffin of the individual that takes it. I also believe that health and old age are on the side of total abstainers. To prove this I can only cite two individual instances (but there are many others); one is the much respected and venerable Dr. N. S. Davis, the other my mother, who died at the age of 86 years.

I believe that statistics will bear me out in stating that women, who as a rule are total abstainers, after they have passed the climacteric period are longer livers than men. This is a strong argument in favor of total abstinence.

The only way we could prove the question satisfactorily would be to have statistics of undoubted authority bearing on this subject. Yours truly,

JOHN M. BATTEN, M.D.

License in Germany.

DETROIT, MICH., Nov. 24, 1897.

To the Editor:—A reader wants to know the laws regulating the practice of medicine in Germany. Here they are:

Every one desiring to practice medicine in any part of the Empire, must produce proof of having attended four full years (eight seasons or semesters) of lectures, laboratories (the last must be in a German university), be of good moral character, a citizen of Germany (or holder of a permit from the police to residence), and pass a very rigid so-called *Staats-examen* before a body of examiners appointed by the minister of education and *not* connected with the faculty. A candidate need not necessarily be a *doctor medicinæ*.

An American physician would have to attend, at least a year, lectures and laboratories, get his residence permit from the police, and then come up for the *Staats-examen*.

Very respectfully, Dr. GUSTAVUS M. BLECH.

Colleges Recognized by the Illinois State Board of Health.

SPRINGFIELD, Nov. 27, 1897.

To the Editor:—The list of medical colleges recognized by the Illinois State Board of Health, published in the JOURNAL of the 27th inst., was made out in this office last September, and received my sanction after a hurried examination just prior to my leaving the office for several days. On returning I found that many errors had been made, so the lists distributed were at once recalled, and on October 1 a corrected list was sent out with the statement that it took the place of that issued in September, a copy of which you published.

This Board does not permit colleges which are recognized as in "good standing" to accord advanced standing to students from non-recognized or partially recognized colleges, without full examination. J. A. EGAN, M.D.,

Secretary Illinois State Board of Health.

Notice to Physicians.

CONCORD, N. H., Nov. 20, 1897.

To the Editor:—The second examination for licenses to practice medicine in the State of New Hampshire will be held at the State House, Concord, Tuesday and Wednesday, Dec. 21 and 22, 1897, beginning at 8 o'clock A.M.

All unlicensed physicians who were not in practice in this State on and before March 16, 1897, must pass the examinations in order to receive a license to legally practice their profession.

Application blanks should be procured at once, as these papers must be filled out and in the hands of the Regent by December 15.

All information regarding the coming examinations will be cheerfully given from the Department of Public Instruction, State Library, Concord. FRED GOWING, *Regent.*

The Late William Warren Greene.

ST. PAUL, MINN., Nov. 26, 1897.

To the Editor:—I am making an effort to obtain a complete list of the articles published by my father, the late William Warren Greene of Portland. The references are scattered and difficult to obtain. and I would ask that any of his old students or professional friends who have reprints or references to articles, will kindly advise me concerning them, thereby conferring a favor which will be greatly appreciated.

CHARLES LYMAN GREENE, M.D.

PUBLIC HEALTH.

The Typhoid Fever Epidemic in Mt. Vernon, N. Y.—The mayor of Mt. Vernon says that there have been only a few deaths in a year from typhoid fever, and that there is no epidemic, no closing of schools and no investigation by the health board as has been currently reported. The other boards of education and trade will join the health board in the issue of public statements of denial.

Measures to Disseminate Knowledge of Hygiene.—Burgerstein of Vienna urges the establishment of special chairs of hygiene in the medical colleges to train young physician-hygienists for the purpose of instructing the public in the principles of hygiene. The State should appropriate funds to support this propaganda, and send qualified persons into the rural districts to lecture and demonstrate the subject with special efforts during fairs and similar gatherings. Pamphlets describing the proper measures to be taken should be given to parents when births are reported, children inscribed in the schools and on other occasions of the kind. The influence of the clergy should be utilized and the theologic seminaries should have facilities for the instruction of the students in the principles of hygiene, which should also be taught the children in the schools.—*Journal d'Hygiène*, October 14.

Action on the Public Health Bill.—According to the *Scimitar* of Memphis, Tenn., November 20, the physicians of that city in conference assembled took action on the public health bill, unanimously favoring the same as prepared by the AMERICAN MEDICAL ASSOCIATION. Their action is as follows:

Resolved, That we respectfully invite the attention of the Senators and Representatives of the State of Tennessee to this very important subject, with the request that they will as soon as Congress convenes, use their best directed efforts to obtain relief for us through the means of some such legislation as we have here suggested, which may commend itself to their wisdom and experience. Furthermore we earnestly ask the cooperation of the business exchanges of this city and of the great railroad corporations which are near to us, to obtain this much needed legislation.

The resolution is signed by the President of the Board of Health and sixty-five other physicians.

The Maryland Public Health Association concluded its first

semi-annual session November 19 at Baltimore. William K. Brooks, M.D., spoke on "The Influence of Crude Sewage on Animal Life in the Bay," treating particularly of the effect on oysters. In a consideration of the sanitary condition of the public schools and the children's eyesight, appeals were made for a better condition of affairs. Hiram Woods, M.D., presented "School Life and Children's Eyesight" and William Dulany Thomas a paper on the "Sanitary Condition of the City Public Schools." Observations on the "Hygiene of the Public Schools of Howard County" were reported by S. J. Fort, M.D. The State Board of Health will publish a pamphlet giving the symptoms of contagious diseases, proper methods of ventilation and lighting, to be distributed among teachers in schools.

The Ship Island Quarantine Station.—The following communications are taken from the New Orleans *Picayune* of November 7.

THE PICAYUNE BUREAU, 218 CAPITOL STREET,
JACKSON, MISS., Nov. 6, 1897.

As the belief prevails in many quarters that the yellow fever at Ocean Springs, from whence it spread to other points, was due to the proximity of the Ship Island quarantine station to the main land, a statement compiled from official sources will be of interest, especially when read in connection with Ex-Supervising Surgeon Hamilton's discussion of the matter recently contained in the Picayune. The following propositions seem to be established:

1. That nearly ten years ago, congress, without division in either house, on the representations of members of the Mississippi delegation in both branches, that the health and safety of the people were endangered by the proximity of the quarantine station at Ship Island to the main land, passed an act for its removal and appropriated $45,000 to establish a station at a more remote point.

2. That, in 1893, after the removal was made, and the expense of establishing a new station at a safer distance incurred, Chandleur Island, the new station, was visited by hurricane, and the "hospital ward" destroyed. Then "the quarantine was immediately transferred to Ship Island," while the act providing for the transfer from Ship Island was in full force, and has remained there ever since.

3. That from October, 1893, until Aug. 18, 1894, the Ship Island quarantine was maintained in open violation of law, and is so yet unless the removal has been indirectly legalized by an item of three lines, which found its way into an appropriation bill, and was doubtless intended to operate in that way.

4. That the wishes and warnings of the people of the locality, and of their representatives in both houses of congress (the action of congress itself), the reports of then Surgeon General Hamilton pointing out the danger, were all ignored when the quarantine station was removed back to Ship Island, after the hurricane.

There is a great deal of responsibility somewhere, and the following statement has been compiled, to aid the public in fixing it where it belongs.

STATEMENTS.

The Congressional Record shows the following:

At the second session of the forty-ninth congress, Jan. 17, 1887, in the senate:

"Mr. Walthall introduced a bill (S. 3157) to authorize the removal of the quarantine station from Ship Island, Miss., which was read twice by its title.

"Mr. Walthall—I ask that the bill, with the accompanying papers, be referred to the committee on commerce. These papers are a memorial from the board of supervisors of Harrison county, Miss., praying for the removal of this quarantine station, and a special report from the surgeon general, dated the 8th inst. I desire to call the attention of the committee to the fact that the surgeon general has repeatedly reported that the quarantine station is too near the shore, and dangerous to the people on the main land.

"Mr. Harris—I am inclined to think that the bill ought to go to the committee on epidemic diseases, which has had control heretofore of all quarantine matters.

"The President pro tem.—The senator from Tennessee moves that the bill be referred to the committee on epidemic diseases.

"Mr. Harris—However, if the senator from Mississippi desires to have it referred to the committee on commerce, I shall not test the sense of the senate on the question.

"Mr. Walthall—I am entirely willing to have it go to the committee on epidemic diseases, but I thought the other was the appropriate committee.

"The President pro. tem.—The bill will be referred to the committee on epidemic diseases."

Jan. 26, 1887:

"Mr. Eustis—I am instructed by the committee on epidemic diseases to report favorably the bill (S. 3157) to authorize the removal of the quarantine station from Ship Island, Miss., and I ask unanimous consent to have the bill considered at this time."

Objection being made, the bill went to the calendar.

Feb. 2, 1887: "Mr. Walthall—The senator from New York having the floor, I ask him to yield to me. I ask unanimous consent to proceed to the consideration of order of business No. 2,045, being the bill (S. 3157) to authorize the removal of the quarantine station from Ship Island, Miss. I will state that this bill relates to a very urgent matter that involves the health and safety of the people of the gulf coast of Mississippi and Louisiana. It can be disposed of without discussion, I am sure. There being no objection the bill (S. 3157) to authorize the removal of the quarantine station from Ship Island, Miss., was considered as in committee of the whole. It authorizes the secretary of the treasury to cause the removal of the national quarantine station, now located on Ship Island, in the Gulf of Mexico, to some other island in the gulf, or in such pass in the Mississippi delta as may be recommended by a board to be designated by him, and the necessary quarantine buildings and appliances are to be established there, for which $45,000, or so much thereof as may be necessary, is appropriated.

"The bill was reported to the senate, ordered to be engrossed for a third reading and passed."

Feb. 4, 1887—In the house:

The speaker laid the bill before the house and it was referred to the committee on commerce, and February 8 it was reported back and, with the accompanying report, ordered to be printed.

March 3, 1887:

Mr. Barksdale asked unanimous consent to take the bill up and put it on its passage and said: "It is designed to protect the entire gulf and south Atlantic coast and people from epidemic and contagious disease. I appeal to the house to suspend the rules and pass this important measure," but the regular order was demanded and the forty-ninth congress adjourned without its becoming a law.

At the first session of the fiftieth congress it was reintroduced and the following proceedings were had:

Dec. 13, 1887. In the senate.

Mr. Walthall introduced a bill (section 642) to authorize the removal of the quarantine station from Ship Island, Miss., which was read twice by its title.

The President—The bill will be referred to the committee on commerce if there be no objection.

Mr. Walthall—The bill just read in relation to Ship Island, was before the senate at the last session and referred to the committe on epidemic diseases, after some little discussion, and I would prefer that reference now.

The bill was referred to that committee.

Dec. 22, 1887:

Mr. Eustis reported it without amendment.

Feb. 23, 1888, the bill passed the senate.

Feb. 24, 1888, it passed the house on motion of Mr. Stockdale, who said: "It is a matter of great importance to the whole continent that that quarantine station should be removed. I ask unanimous consent that the senate bill be put upon its passage."

March 5, 1888, the bill was approved by the president, and in virtue of its provisions the quarantine station was removed to Chandeleur Island.

Dr. Hamilton was then the supervising surgeon general of marine hospital service of the United States. It was his "special report" which Senator Walthall submitted with the memorial of the board of supervisors of Harrison County, praying for the removal of the quarantine station, when he introduced the bill Jan. 7, 1887, Dr. Hamilton had more than once recommended the removal, and warmly favored it.

Dr. Wyman, who succeeded Dr. Hamilton, in his annual report for 1893, says, on page 12, volume 1:

"On October 1 a violent hurricane visited the Gulf Quarantine Station, located on Chandeleur Island, in the Gulf of Mexico, and on the following day the hospital ward was completely destroyed and swept out to sea. Five persons connected with the station lost their lives, namely: Stewart L. A. Duckart, a nurse, a boatsman and two patients. A full account of the storm will be found in the portion of this report relating to the

quarantine stations. The quarantine was immediately transferred to Ship Island, and some congressional action is required to legalize the establishment of a permanent station on that island, its removal from Ship Island to Chandeleur Island having been directed by special act of congress."

No action was had by congress, or asked for in any direct form, so far as can be found, to "legalize" the removal back to Ship Island in confessed violation of a special act referred to, but in the voluminous sundry civil bill passed August 18, 1894, covering fifty pages in the "Laws of the Fifty-third Congress," was found this brief and apparently harmless appropriation, intended doubtless by whoever had an interest in having it inserted, as a ratification of the unauthorized removal:

"For ballast scows, small hospital, repairs to buildings and boat landings for the Gulf Quarantine Station, Ship Island, Miss., (transferred from Chandeleur Island), $5,000."

The point in the case seems to be inclosed in the brackets, in view of the surgeon general's statement that "some congressional action is required to legalize the establishment of a permanent station in that island"—he considering apparently that to the extent of his ability he had made it "permanent" in advance of any legalizing action by the congress whose special act he had disregarded.

[NOTE, by the editor of the JOURNAL: The foregoing compilation, which seems an accurate copy of the records, should set at rest the statement that my views on this subject were recent. They were published, as is seen, while I was still Supervising Surgeon General, four years before the acts of the present incumbent had entailed any criticism.—EDITOR.]

SHIP ISLAND QUARANTINE STATION,
BILOXI, MISS., Nov. 6, 1897.

Editor Picayune:—Although a matter of record, it is not generally known that the Mississippi State Board of Health has more than once protested against the location of the gulf quarantine station at Ship Island.

One year ago last April our executive committee by order of the board, went to Ship Island to study the situation there. After an investigation, the committee was so thoroughly impressed with the great danger that threatened not only our own State, but the entire South, that it decided to place a man here to further study the situation, note maladministration of the station, and watch developments.

I was placed in charge of this work. I had been here but a short time when I made a report to the chairman of the executive committee, which was forwarded to the secretary of the treasury by the governor of our State. The secretary referred the report to the supervising surgeon-general of the marine-hospital service. The supervising surgeon general made a caustic reply, the arguments of which were based on false premises. This was sent by the secretary of the treasury to the governor and by the governor to me.

By permission of the governor, I replied by making a report to the State Board of Health the following October. Surgeon-General Wyman, upon my request, was invited by the governor to be present in person or by representative at this meeting of our board and participate in the discussion of this report, the quarantine station at Ship Island and the methods practiced there. He was not present, nor did he send a representative. The report made on that occasion has been published and is a matter of history. The South today is paying the penalty of the unheeded warning then sounded; the prediction then made has been verified, and crippled commerce and hundreds of desolate and saddened homes remain as a grim-visaged reminder of the stupidity and arrogance of one high in National authority.

But the Mississippi State Board of Health did not stop here. At its meeting last April it appointed a committee to go to Washington and wait on the secretary of the treasury in person. This committee, consisting of Drs. H. A. Gant, Water Valley; S. R. Dunn, Greenville, and Walton S. Greene, Aberdeen, was prepared to lay all the facts before the secretary. After conferring with Mississippi's representatives in the lower house and Senator Walthall, and after being assured by the latter gentleman that the station was removed to Ship Island without authority of law, they called on Supervising Surgeon-General Wyman, who discussed the matter with them, but showed plainly that he was absolutely fixed in his determination to retain the station at Ship Island. His main argument, and, in fact, his only argument, was that a cyclone visited Chandeleur in 1893, and was liable to visit the island again at any time. He was assured by the committee that a little town down in Mississippi, Beauregard, was visited by one of these monsters of the elements about fifteen years ago; that it wrought more destruction than the 1893 cyclone did at Chandeleur Island; that it had not been visited by one since, and possibly never would be visited by one again. The surgeon-general is very considerate of the welfare of the men engaged in his service, and we commend him for it, but we reserve the right to protest against this consideration when done at the peril of the lives of our people and of the commerce of our country.

After leaving the surgeon-general, being convinced that "none is so blind as he who will not see," the committee repaired to the office of the secretary of the treasury. They were very anxious to get the ear of the secretary, but he, being a very overworked man, and a consideration of a question involving the health and lives of the people being of such minor importance, and since these gentlemen had taken so little trouble on themselves, having traveled only about 1,800 miles to see him in person officially, they were very courteously referred to his first assistant. It is, indeed, interesting to hear this committee relate its experience with this self-opionated first assistant. It has its amusing side and its interesting side. The twin elements, arrogance and stupidity, in one small cranium are always amusing, but when we see these elements in a cranium at the head of the affairs of the Nation, it then becomes interesting—interesting because it is an unerring finger-board of what centralization of power means in these United States. This distinguished first assistant refused absolutely to discuss the matter or open up the question. These gentlemen, representing a great State, had gone hundreds of miles, had taken a trip attended with no small expenditure of time and money, on a mission involving the health and happiness of their people and their rights to a voice in questions of quarantine, only to be met with a discourteous and rude "we do not want you." They insisted on reading their memorials, and he positively, discourteously and rudely declined a hearing, reiterating that the matter was a "closed book and that he would not open it." It now remains to see if Congress will heed the warning and open the book. If it does not, I make the prediction that it will not be half a decade until the South will be visited by another epidemic, and it will again be followed, as this one will be, by an expenditure of time and money by the marine-hospital service to saddle the responsibility of its admittance upon some efficient State board of health.

H. H. HARALSON, M.D.,
Member Mississippi State Board of Health.

NECROLOGY.

JULIUS A. SKILTON, M.D., Albany Medical College 1855, who died at his home in Brooklyn, N. Y., November 20, was a private practitioner in Albany, N. Y., until his entrance into the service of the United States during the Civil War. He was promoted from assistant surgeon of the Thirtieth New York Infantry to full surgeon of the Eighty-seventh New York Infantry, and was also honored with a staff appointment under Gen. N. P. Banks. He participated in twenty-seven different engagements and acquired a brilliant record. In 1865 he went to Vera Cruz as a newspaper correspondent to watch the operations of the French troops. On one occasion he was suspected of being a spy and narrowly escaped death. After the conflict he was made a medical officer in the escort which accompanied General Juarez and his family to Mexico and restored the General to power. Dr. Skilton continued to act as correspondent until General Grant's election, when he was made consul-general in the City of Mexico, acting also in special matters for England, France and Austria. It was Dr. Skilton who exhumed the body of Emperor Maximilian and sent it to Austria, at the request of Emperor Francis Joseph. Dr. Skilton also obtained the release of Maximilian's prime minister, and as a token of gratitude was asked to take the custody of the dead Emperor's personal effects. While in Mexico he gave much of his time to archeologic research. His collection of relics is now in the Yale Museum. When President Grant's second term expired Dr. Skilton remained in Mexico and became prominent in railroad mining enterprises. About twelve years ago he came to New York to look after his interests in electric and other contract work in Mexico, the West Indies and South America. While consul general in Mexico he had much to do with the establishment of the missions of the Methodist Episcopal Church in and near the City of Mexico.

E. E. Fuller, M.D., Keokuk, Iowa, November 18, aged 65 years. During the Civil War he went to the front, serving at the battle of Athens, Mo., one of the first engagements of the war. Soon after he was given a commission as assistant surgeon of the Third Iowa Cavalry and was with that regiment for two years, when his health failed from the arduous work which he had done in the line of duty and he was compelled to return home. Soon after his return he went on duty in the hospitals.

William D. Flynn, M.D., Redwood Falls, Minn., November 23, aged 56 years, last year president of the State Medical Society.——George H. Horn, M.D., Philadelphia, for many years secretary of the American Philosophical Society, November 25, aged 53 years.——G. A. Jule, M.D., Eau Claire, Wis., died at Drammen, Norway, November 22, aged 37 years. The Doctor was a graduate of the University of Christiania, Norway, class of 1887.——R. B. Parks, M.D., Jamestown, N. Y., November 17.——Isaiah B. Sexton, M.D., Sparta, Mich., November 19, aged 93 years.——Michael C. O'Toole, M.D., University of Michigan 1862, a native of Wexford, Ireland, aged 65 years, died at his home in San Francisco, Cal., November 22.

NEW INSTRUMENTS.

WOODLING'S ETHER CONE.

Gauze lined; ready for use; clean, convenient. Use once and throw away. It consists of a strong paper cone and separate gauze lining, with impervious tissue paper between. The cone is folded in, around its mouth, so as to more securely hold the lining and also obtain a smooth surface to come in

contact with the patient's face. The trough formed by this fold catches any surplus ether and it is reabsorbed by the lining instead of running out over the patient's face. These cones are cheaper than cleaning and replacing the lining in any permanent inhaler, besides saving the cost of the latter. A clean, new cone for each patient.

Dr. M. E. Woodling.

SOCIETY NEWS.

The North Central Illinois Medical Association will hold its twenty-fourth annual meeting at Pontiac, Ill., December 7 and 8.

The Western Surgical and Gynecological Association will hold its seventh annual meeting at Denver, December 28 and 29. Herman E. Pearse, M.D., 1018 East Fifteenth Street, Kansas City, Mo., is the secretary.

The Des Moines Pathological Society.—On November 22 a number of physicians organized a society to be known as The Des Moines Pathological Society. Officers elected were as follows: M. N. Voldeng, president; C. E. Currie, vice-president; M. F. Patterson, secretary; Dr. Seiger, treasurer; A. R. Ames, curator. Meetings will be held every Monday evening.

The Medical Society of Westchester County held its monthly meeting at Yonkers, N. Y., November 17. E. M. Hermance presided. Evarts M. Morrell of New York City, Robert Abbe and J. Lindsay Porteous read papers. After the discussion of the papers dinner was enjoyed, and speeches of an informal nature were made by Z. N. Lewis, the Rev. James E. Freeman, Joseph F. Daly and S. B. Carlisle.

The New York State Association of Railway Surgeons, held their seventh annual meeting November 16, at the Academy of Medicine. Dr. J. Frank Valentine of Brooklyn presided, and Dr. C. B. Herrick of Troy was the secretary. The morning program included papers by Dr. Thomas H. Manley of New York; Dr. W. B. Outten of St. Louis; Dr. W. J. Herdman of Ann Arbor, and Dr. L. L. Gilbert, of Pittsburg. Dr. R. H. Eccleston of Providence; William J. Kelly, counsel to the Long Island Railroad, and Drs. Charles L. Dana, Reginald H. Sayre, and Landon Carter Gray and Clark Bell of New York, took part in the discussion which followed. Papers were read in the afternoon by Clark Bell of New York; Dr. C. B. Herrick of Troy; Dr. C. S. Parkhill of Hornellsville; Dr. John F. Burns of Brooklyn; Dr. W. C. Wood of Gloversville; Dr. A. F. Palmer of Mechanicsville; Dr. Harvey P. Jack of Canisteo, and Dr. Charles R. Phillips of Hornellsville. W. H. Baldwin, Jr., president of the Long Island Railway Company, made an address. The following officers were elected: President, Dr. Clinton B. Herrick of Troy; vice-presidents, Dr. Thomas D. Mills of Middletown, and Dr. William D. Morrow of Walton; secretary, Dr. George Chaffee of Brooklyn; treasurer, Dr. Harvey P. Jack of Canisteo.

BOOK NOTICES.

A Text-book of Practical Therapeutics, with especial reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, etc. With special chapters by Drs. George E. De Schweinitz, Edward Martin and Barton C. Hirst. Sixth edition, thoroughly revised and largely rewritten. In one octavo volume of 756 pages. Cloth, $3.75; leather, $4.75. Philadelphia and New York: Lea Brothers & Co. 1897.

Although, says the author, the number of copies printed of the fifth edition of this work was almost three times as great as was the case with the earlier editions, they have been rapidly exhausted and the author has been called upon within two years to prepare the manuscript for the sixth edition.

He further says: "Many books after appearing in several editions lose a large part of their original value, because the statements that have been added are so confused with the original text that its conciseness is extinguished; because of that the author has rewritten a very considerable portion of the present edition in order to render the statements in the text clear and concise. He has also endeavored to arrange work that can be used in conjunction with the text-book on practical diagnosis."

We have no reason to change our favorable opinion of this work, and congratulate the author on the generally favorable reception by the profession, and the appreciations we hope may long continue.

A Handbook of Therapeutics. By Sidney Ringer, M.D., Fr.S. and Harrington Sainsbury, M.D., F.R.C.P. Thirteenth edition. New York: Wm. Wood & Co. 1897. Pp. 746.

A long interval has elapsed since the last edition, and the list of new drugs and of new methods has been proportionately great. A special chapter has been introduced on serum therapeutics and, in connection with the invalid dietary, a short section upon the use of the digestive fermenta.

In the early part of the work brief reference is made to the Nauheim (Schott) treatment.

Ringer's Handbook of Therapeutics has been so long before the public, and so established a favorite, that little need be said in regard to it, except that the present edition has been brought down to date, and refers to the recent addition to armamentarium, and it has retained those features which made it so long a favorite in England and in this country.

A Text-Book of the Diseases of Women. By HENRY J. GARRIGUES, A.M., M.D., containing 335 engravings and colored plates. Second edition, thoroughly revised. Philadelphia: W. B. Saunders. 1897. Pp. 728. Price, cloth $4.00; half morocco, $5.00.

In this edition some defective illustrations have been redrawn and many new figures have been added; the work has been thoroughly revised and made to correspond with the changes that have taken place in pathology and treatment since the appearance of the first edition of the work. The description of the chief methods employed in abdominal surgery have been added in the appendix. The work is thorough and complete, is thoroughly up to date, with the exception that the old system of weights and measures, instead of the decimal system, is still carried out throughout the work.

Twenty-eighth Annual Report of the State Board of Health of Massachusetts. Boards, pp. 920. Boston. 1897.

This twenty-eighth annual report of the pioneer Board of Health is up to usual standard of excellence. It contains reports on water supply; sewerage and sewage disposal; pollution of ponds and streams; Lawrence Experimental Station experiments in sewage and water purification; food and drug inspection; diagnosis of malaria; examinations for tuberculosis and "A Comparative Study of the Toxin Production of Diphtheria Bacilli." In addition vital statistics of the State (1856-1895) are considered. Many concise tables and charts present their contents in convenient form. The paper and typography are excellent and the Board deserves credit for the volume.

Fiftieth Anniversary of the Hartford Medical Society, September 15, 1846. Proceedings of the celebration October 26, 1896, at Hartford, Conn.

This volume includes the introductory remarks by the president, M. Stone, M.D. Historic addresses by Gurdon W. Russell, M.D., on the deceased members and those connected with the later years of the Society, by Horace S. Fuller, M.D. "Esprit de Corps," by Henry P. Stearns; The present and future of the Historical Medical Society as suggested by a study of the fundamental enactments, by Elantham Stone, M.D.

The smooth and pleasant course of the Hartford Medical Society from its foundation in 1846 to the present time made it a pleasant task for its members to meet and celebrate the occasion. No one can peruse the work without feeling that they missed a very important event by not being present. This commemorative volume is of interest to every member of the medical profession, and the biographies contained in Dr. Fuller's address add something to American medical biographies.

Some of the speeches on the occasion of the anniversary dinner were of a high order of literary merit, and all were amusing and entertaining.

The Hartford Medical Society, judging from this volume, is composed of very pleasant people.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. ABBOTT, M.D. Fourth Edition, enlarged and thoroughly revised with 106 illustrations, of which 19 are colored. Pp. 543. Philadelphia and New York: Lea Brothers & Co. 1897.

As the various editions of this standard text-book have made their appearance we have taken occasion to give our favorable opinion of the work and to welcome it to the editor's table. It has now become so well established that we have no doubt of its firm place in medical literature.

In this edition will be found descriptions of the bacillus of bubonic plague and bacillus of influenza, as well as a number of new illustrations.

Those who favored the former edition will find every reason to continue their favorable opinion of the work.

Transactions of the New Hampshire Medical Society at the 106th Anniversary held at Concord, May 24 and 25, 1897. Cloth. Pages 318. Concord. 1897.

The volume contains, besides the Society proceedings, the following papers, many with discussion: "Medical Expert Testimony;" "Causes and Recent Treatment of Neurasthenia;" "When to Call a Surgeon in Acute Abdominal Affections;" "The History of X-Rays and their Application in Medical and Surgical Diagnosis;" "Degeneration of Eyes;" "Glaucoma;" "Mucous Colitis;" "Foreign Bodies in the Alimentary Canal in Children;" "Acute Cerebral Meningitis;" "Some Obstinate Forms of Eczema;" "Phlebotomy;" "Causes and Conditions of Pulmonary Tuberculosis, and How to Avoid Them."

Medical Education and Registration; United States and Canada. By WILLIAM T. SLAYTON, M.D. Pp. 105. Hyde Park, Vt.: Lamoille Publishing Co. 1897.

This timely volume contains, in small compass, much data of value to the practitioner. Part I, "Requirements for License to Practice Medicine in the United States," contains just what one wishes to know on that subject: The population of the various States for 1870, 1880 and 1890; proportion of physicians to population; medical schools in each and authorities having licensing power, etc. Part II treats of "Requirements for Admission to the Medical Colleges of the United States." Part III presents "Statistics of the Medical Schools of the United States." Part IV covers requirements for license to practice in Canada and treats of Canadian medical schools.

Transactions of the Colorado State Medical Society. Cloth, pp. 470. Published by the Society. Denver. 1897.

The book contains lists of officers, committees, members, presidents of the Society, by-laws and complete proceedings of the twenty-seventh annual convention. The list of contributors of papers contains names of many prominent men in the profession, and the papers are printed with their discussions. The general make-up, paper and typography make the book a credit to the Society.

Twenty-third Annual Report of the Secretary of the State Board of Health of the State of Michigan, for the fiscal year ending Jan. 30, 1895. Cloth, pp. 568. Lansing. 1896.

Part I contains reports of the Board's work, sanitary conventions, board meetings, etc., and officers' reports.

Part II treats of communicable diseases, time of greatest prevalence of each, injuries and loss of life, nuisances, etc., the whole containing many tables and charts of interest. The work is well indexed and on good paper.

Proceedings and Addresses at a Sanitary Convention held at Hanover, Mich., June 3 and 4, 1897. Paper. Lansing. 1897.

This is a supplement to the Michigan State Board Report for 1897, and contains twelve papers on various sanitary questions. Many of the papers are accompanied with the discussion thereon.

International Clinics. Edited by JUDSON DALAND, M.D. Vol. III, Seventh Series, 1897. Pp. 360. Illustrated, cloth. Philadelphia: J. B. Lippincott Company. 1897.

The contents of this volume comprises papers as follows: "Opium, Its Use and Abuse;" "The Treatment of Pulmonary Tuberculosis;" "The Treatment of Injuries of the Eyeball . . ;" "Clinical Observations upon Senile Heart . . . ;" "Treatment of Carcinoma of the Stomach;" "Hemoptysis. . . ;" " . . . Hypertrophic Nasal Catarrh;" "Antisepsis in the Treatment of Skin Diseases of Children;" "Treatment of Infantile Uric Acid Infarction . . . ;" with ten papers in the department of medicine, seven in surgery, five in gynecology and obstetrics and several on neurologic, ophthalmologic, laryngologic and dermatologic topics.

Centrifugal Analysis. A Manual for the Use of the Centrifuge in every-day Work. Bausch & Lomb Optical Co., Rochester, N. Y. 1897.

This little book is designed to popularize the use of the centrifugal machine in the examination of blood, urine, sputum, etc., and contains full directions concerning the use of the centrifuge. It is mailed free on application.

Report of the Commissioner of Health of Milwaukee, Wis. Paper, pp. 139. Milwaukee: 1897.

This is the twentieth annual report, and contains such tables and reports as are necessary to make clear the working of the Department in Milwaukee. The reports are concise, the tables well arranged and the typography and presswork excellent.

Special Articles on Yellow Fever.—The Etiology and Pathology, by R. Matas, M.D., New Orleans, La.; The Symptomatology and Diagnosis, by F. W. Parham, M.D., New Orleans, La.; The Treatment, by F. S. Dabney, M.D., New Orleans, La. These articles were read before the Orleans Parish Medical Society September 11 and 18, and after unanimous endorsement ordered printed for complimentary distribution for each member and its corresponding scientific bodies.

MISCELLANY.

A Physician Honored.—G. H. Bridgman, M.D., of Elizabeth, N. J., has received the appointment of Ambassador and Minister Plenipotentiary to Bolivia.

Correction.—In "The Serum Therapy of Diphtheria, 'The Antitoxin Question,'" in the JOURNAL of November 27, page 1099, line 18, the word "serum" was omitted. The sentence should read: "If diphtheria serum contained, etc."

A Parity of Rights.—If the government, says *Food and Sanitation*, undertakes the stamping of money there is no reason why it should not stamp foods. There should be the stamp of some authority able to enforce penalties for counterfeiting, as in the case of money.

Municipal Aid to the Needy.—London spends $6,000,000 a year for the relief of the needy, Paris $4,500,000, Vienna $3,000,000 and Berlin $2,000,000. Greater New York will spend, approximately, $2,500,000. The statistics of Chicago in this particular have not yet been made available.

Can not Evade Rule upon Cross-Examination of Expert.—The only circumstances under which medical books can be read in evidence, the supreme court of Michigan declares, in the case of Hall against Murdock, is where the witness has based his opinions upon them, and has referred to them as authority. The established rule, it maintains, is that it is incompetent to read from these books. This rule, it adds, can not be evaded upon cross-examination.

A Case of Subdural Hematoma with Uncrossed Motor Nerve-Tracts is described in the *Wien. klin. Rundsch*, September 31. After a fall, dangerous symptoms developed, all indicating a subdural hematoma on the left side, but trephining the left motor cortical centers was without results: no blood issued from the puncture. As a fatal termination was imminent, trephining was performed on the opposite side and the hematoma found. Recovery was prompt and complete, demonstrating the existence of uncrossed nerve-tracts.

City Aid to Charities in New York.—The corporation counsel of New York City has rendered an opinion to the effect that under an act passed by the legislature in 1895, all mandatory legislation requiring the city to pay certain sums of money annually to charitable institutions has been made permissible. The controller, in accordance with the decision, is sending out letters to all charitable organizations that have received public aid through mandatory legislation that their claims for support will hereafter be considered on their merits only.

The Journal of the Boston Society of the Medical Sciences has been enlarged to octavo size. By general consent of the heads of Departments it will contain abstracts of experimental work carried on in the Medical School of Harvard University, the Experimental Laboratories of the Massachusetts General and the Boston City Hospitals, the Physiological and Biological Departments of the Massachusetts Institute of Technology and Clark University. It is proposed to issue the numbers of the *Journal* promptly after each meeting of the Society, and to give a rapid means of communication of the results of investigation. The intention is to publish at least ten numbers a year, running from October to June.

Electricity and Acetone.—Dr. Regnier describes, in the *Jour. de Méd. de Paris* of October 31, the remarkable benefit derived by a diabetic patient, with double sciatic neuritis, atrophy of the triceps, angina pectoris and paresis of the lower limbs, from electric treatment with the continuous current and inductive electricity with massage. The sugar did not seem to be affected by this treatment, but the acetone entirely vanished. If confirmed by other experiences, this complete elimination of the acetone, which is the probable cause of the spinal complications, etc., will be an invaluable aid in the treatment of diabetes and acetonuria. He completed the cure of his patient with "almond biscuits," and the general improvement resulted in a marked decrease in the amount of sugar, which fell from 42 to 15 grams per liter, after having resisted two seasons at Vichy and the electricity.

Health Commissioner can not fix Hours of Labor.—Where a city charter gives to the board of health alone the power of appointing its employes, and "to prescribe the powers and duties and determine the annual salary and compensation" of each of same, the supreme court of Michigan holds, in the case of Goodson against Board of Health of City of Detroit, that the health commissioner can not fix the hours of labor, to determine how many hours should constitute a day's work, for an employe of the board, and bind the city to pay therefor. If, for example, a clerk of the board is dissatisfied with his employment and hours of labor, he should apply to the board to fix them, and not to the commissioner, the action of the board thereon being conclusive.

A Panic Averted.—The electric plant of the Manhattan State Asylum for the Insane, on Ward's Island, together with the other institutions there, was totally destroyed by fire on the night of October 19 soon after 7 o'clock. The damage will exceed $25,000. The electric plant is in the basement of the female branch of the asylum, and immediately over the flames 100 of the most violent maniacs were confined. In the other end of the building 250 others were in danger. All were removed to a place of safety, and the loss is altogether to property, human life being spared. One hundred of the worst maniacs marched through a blazing corridor to safety, believing, according to a reporter of perhaps exuberant imagination, that "such nice fireworks were for their amusement." Dr. A. E. MacDonald, the superintendent, highly praises the conduct of his nurses, male and female. The police and fire departments also did efficient service, while the known hallucinations of the more violent patients were adroitly managed.

Physician Presumed to be Respectable.—The evidence and certificate of at least two "respectable" physicians is required, by a Maine statute, to establish the fact of insanity. But the supreme judicial court of that State holds, in the recent case of the City of Bangor against the Inhabitants of Orneville, that a record of the proceedings attending the examination and commitment of an insane pauper that omits to state, according to the statute, that the two practicing physicians who made the medical examination were also "respectable," will be held sufficient when it appears to contain a statement of all facts requisite to establish the regularity of the proceedings and a legal

commitment; no evidence being adduced that the two physicians, who signed the certificate, were not in fact respectable. In such cases, it says, the court is aided by the presumption in regard to public officers, expressed by the maxim, "all things are presumed to be done in due form."

The Polhemus Clinic of Brooklyn.—A magnificent addition to the medical resources of Brooklyn was opened November 18, under the unassuming title given above. It has been erected under the direction and bounteous contributions of Mrs. Caroline Polhemus as a memorial to her husband, the late Henry D. Polhemus; it was opened for a private view on Thursday afternoon. Mr. Polhemus had for many years been a regent of the leading medical institution of his city, and on this account largely, Mrs. Polhemus decided to erect this useful memorial, which will nobly further the work of the Long Island College Hospital. The building with its equipment, will cost $450,000. It is of the most substantial structure and as nearly fireproof as possible. The top floor has been devoted to large operating and dissecting rooms, which when fitted up will be the most perfectly appointed in the city. Lecture rooms, class rooms, and chemical laboratories occupy the floors beneath. These will be turned over to the use of the medical students of the hospital, who are further provided with a complete set of lockers. The lower floors are to be devoted to the dispensary work. A large and splendid library will be a feature of the first floor of the building. The Clinic has been transferred to a corporation, created under the laws of the State of New York, with the consent of the State Board of Charities, to hold in perpetuity. It will be managed by the Long Island College Hospital. Mrs. Polhemus has provided a fund for the support of the Clinic.

Examination of Patient under Influence of Chloroform.—In a personal injury case, a physician was called by the plaintiff, and testified that chloroform was administered to the plaintiff, and that she was examined while under that influence, and as to what he found in reference to the condition of his patient at the time. The defendant contended that an examination of the plaintiff's injuries had been made by the doctor only a day or two before this without administering chloroform, and that this testimony about giving it had a tendency to make the plaintiff's case appear more serious than it really was, and that this was prejudicial to the defendant. But the supreme court of Michigan says, Holman against Union Street Railway Company, that the chloroform was administered as a part of the treatment, and while the patient was under its influence the muscles of the shoulder and hip were given motion with the purpose of breaking up the adhesions; and it expresses the opinion that the testimony was not objectionable, and was introduced for the purpose of showing the then condition of the plaintiff. This decision it further seeks to justify by the statement that there was nothing in the testimony to show that this treatment was unnecessary, or that it was had for the purpose of the trial of the case. That the doctor was asked, while upon the stand, whether or not, in his judgment, the plaintiff still continued to suffer pain, and whether she would be able to do her household duties, it does not consider error.

Expert Evidence Superior to Mere Conjecture.—In the personal injury case of Mahar against Railroad Company, medical experts were permitted to testify what effect certain conditions which had been ascertained would produce upon the plaintiff's system, what causes would naturally induce such conditions, and the probable duration of the same. This evidence, the fourth appellate division of the supreme court of New York pronounces something superior to and beyond mere conjecture, for it expressed the deliberate judgment of men of science, based upon actual observation and experience, as to results and conditions which might naturally and ordinarily be anticipated, and not as to those which were only within the range of possibility. It was therefore, the court thinks, of some value to the jury, and competent for the purpose for which it was received. In this, the court distinguished between the evidence in question and that rejected in another and leading case where the testimony was that the plaintiff's injury was "very likely to prove permanent," as furnishing the jury too good an opportunity for speculation as to consequences.

Rheumatism, Gout and Rheumatoid Arthritis.—Dr. Edmund L. Geos, of the Faculty of Paris, has just completed a monograph on "Rheumatism, Gout and Rheumatoid Arthritis and allied affections." He first gives a brief historical exposé of the subject and claims that acute articular rheumatism is always due to a specific germ or micro-organism which, like the germs of measles, scarlatina and syphilis, though still undiscovered are believed to exist and play the most important rôle in the causation of these diseases. The more recent bacteriologic discoveries are alluded to and the different definitions and explanations of arthritism given in detail. Much emphasis is laid upon the importance of carefully examining the amount of uric acid present and the extent of uricemia or lithemia present. After briefly but carefully considering the various treatments that have been followed by both the most eminent English and French authorities, Dr. Geos presents the results obtained by the use of the salicylates and colchicin, which have been very efficacious in his hands. He uses a combination of colchicin and methyl salicylate dispensed in gelatin capsules, each containing one-fourth milligram (1-260 grain) of colchicin and 20 centigrams of the natural methyl salicylate distilled from the betula lenta (N. O. amentacea). It is essential, when exhibiting these remedies, to properly divide the doses, and small capsules which can be administered every hour or every alternate hour seem best to fill all requirements. In addition to using this combination internally it has also been used by he author externally in the form of betul-ol; this is almostt immediately absorbed, which is evidenced by its presence in the urine within ten minutes after its application; this is to supplement the internal administration.

Oxytuberculin Treatment of Tuberculosis.—Report of a Committee of the Faculty of Cooper Medical College upon the oxytuberculin treatment of tuberculosis of Dr. J. O. Hirschfelder, adopted by the Faculty, Nov. 5, 1897.

In February, 1896, Prof. J. O. Hirschfelder, of San Francisco, called the attention of some of his professional friends to a new method of treatment of tuberculosis with a bacteriologic product of his devising which he called oxytuberculin. He presented a number of patients for examination and apparently demonstrated its value. Nevertheless he was advised to withhold the results from publication until further experience and time should verify them.

Subsequently, that is in April, 1897, he read before the State Medical Society a paper recording seventy cases treated with oxytuberculin.[1] Thirty of these were in advanced stages of the disease, many having vomicæ, and forty were in earlier stages. Each of these exhibited the physical signs of tuberculosis in one or other of its stages; bacilli were found in the sputa of all. Other physicians had examined a large number of the patients at the beginning of and at different periods of the treatment, and had verified the diagnosis. Dr. Hirschfelder reported that sixteen of these patients were cured; that is, no evidence of the disease can now be discovered objectively or subjectively. Thirty-six were much improved; that is, they are subjectively well, little evidence of present disease can be discovered; there are few or no sputa and no bacilli. In some of these latter large vomicæ exist, but seem healed. Six cases were slightly improved; six remained unchanged; one became worse and five died. All the latter were in the worst stages of the disease when treatment was begun; four died in from a month and a half to two months, and one in three and a half months.

During the progress of these investigations Dr. Hirschfelder made forty-one series of culture experiments in the laboratory. These uniformly proved the inhibitory power of the oxytuberculin upon the growth of tubercle bacilli in veal bouillon. It appeared a just inference that similar results might follow the injection of oxytuberculin into the body.

[1] Transactions Medical Society State of California, 1897.

With these facts and statements before them, the members of the faculty of Cooper Medical College determined to investigate the new treatment, and for that purpose the undersigned committee was appointed. Its several members have repeatedly witnessed the laboratory culture experiments and have had before them for examination fifteen patients who have been under treatment from two to several months during the past two years, together with their histories, bacteriologic specimens and the corroborative evidence of other physicians as to the diagnosis. Two of these patients at the beginning of treatment presented a mild form of the disease; in five the disease was pronounced; in four the lung was very seriously involved, and the remaining four seemed hopeless. There is no reason to doubt that all were cases of tuberculosis. Fever, cough, expectoration, hemorrhages, night sweats, etc., had been present in nearly all; the physical signs and bacilli had been found in all; in many the diagnosis had been confirmed by other physicians. Physical examination of many of these cases was made by the members of the committee. No evidence of present tuberculosis could be discovered, although in some, old cavities were found. The concurrent testimony of all, except two or three recent cases, was of complete return to health so far as appetite, weight and vigor are concerned. There were no cough, expectoration, hemorrhages or other symptom of disease. Several had been discharged from treatment months ago.

The conclusions reached by the committee are:

1. Oxytuberculin prevents the growth of tubercle bacilli in veal bouillon.

2. A positive therapeutic value has been demonstrated for it, in the fifteen cases examined; the more clearly as no other treatment was used.

3. No dangerous or untoward effects have resulted from its use.

4. It has been legitimately brought before the profession, since a full description of its mode of preparation has been published, thereby putting it within the reach of all.[2]

Finally, the Committee feels justified in certifying these facts to the profession to the end that oxytuberculin may be thoroughly tested, the limits of its successful application determined and its place in therapeutics established at the earliest possible time.

While some remarkable results have been obtained in advanced cases, no claims are made for the later stages of the disease.

L. C. Lane, President,
C. N. Ellinwood,
A. Barkan,
R. H. Plummer,
Henry Gibbons, Jr., Dean. } Committee.

Societies.

The following meetings are noted:

Connecticut.—Waterbury Medical Society, November 15.

District of Columbia.—Medical Association, Washington, November 23.

Illinois.—Chicago Medical Society, November 24.

Minnesota.—Olmstead County Medical Society, Rochester, November 23.

Missouri.—St. Louis Medical Society of Missouri, November 27.

New York.—Academy of Medicine, Syracuse, November 23. Albany County Medical Society, Albany, November 17. Chemung County Medical Society, Elmira, November 16. Medical Society of the County of New York, New York City, November 22.

Cincinnati.

The German Deaconess Home has opened a branch known as the Ohio Maternity Hospital located at No. 222 West Liberty Street. The staff consists of Drs. Gustav Zinke, M. A. Tate and J. M. Rowe. Dr. Bookwalter has been appointed house physician.

The Miami Valley Medical Society held its regular annual meeting at Torland, Ohio, October 13. The following papers were presented: "New Method of Skin Grafting after Bone Operations," by E. W. Walker, Cincinnati; "Abnormal Adhesions of the Placenta," by C. A. Tribbett, Westboro; "Can Typhoid Fever be Aborted?" by J. H. Andrews, Goshen; "Headache in Nasal Disease," by Max Thorner, Cincinnati; "Bright's Disease," by P. M. Ashburn, Cincinnati. The following resolution was passed and its hearty support pledged by the individual members of the Society present:

Resolved, That the members of the Miami Valley Medical Society are earnestly urged to correspond with all candidates for members of the Legislature in their respective counties to learn whether or not said candidates favor any injurious amendment to the Kimmel law and when so informed the members are urged to actively work for the election of the candidates who favor the amendment of the present law by its friends and not by its enemies.

President-elect Dr. Chas. A. Hough of Lebanon presented an interesting review of the first year's work of the Ohio State Board of Medical Examiners.

Detroit.

Wayne County Medical Society.—At the regular meeting of this Society, held Nov. 18, 1897, Dr. Samuel Bell, medical superintendent of the Upper Peninsula Hospital for Insane, and honorary member of the Society, read a paper on the subject of "Physical Conditions Producing Mental Aberrations." After introducing the subject by referring to the conflict between authorities in regard to the relation of insanity to certain conditions of the procreative organs, the author took up insanity following operations. He said that a few years ago Dr. Rohe of Baltimore sent letters to the medical officers of all the insane institutions of the United States and Canada requesting information on this subject. Replies were received from all, giving altogether only twenty-five cases in the last ten years of insanity following operations on the female generative organs. In persons of nervous instability, the shock of a grave operation may produce transitory delirium and even more prolonged mental derangement, but derangement does not appear to follow operations on the female organs of generation more than operations on organs in any other part of the human organism. The Doctor then gave an analysis of six cases at present under treatment at the Upper Peninsula Hospital for the Insane, who had operations. In four of the cases cited, mental aberration either developed or became aggravated after the operation, while in two, decided mental improvement followed the operation. "If a patient becomes insane after an operation," the author went on to state, "it is not reasonable to conclude that the mental trouble is the result of it, though it is possible that where hereditary taint predisposes to insanity, the operation might act as an exciting cause. Dr. R. M. Buck, medical superintendent of the London, Ontario, Insane Asylum, reports that out of sixty-two cases of insanity operated on, twenty-three completely recovered their mental balance and fifteen others were very much improved. There is sufficient evidence to show conclusively that child-bearing and lactation bear an important relation to mental disorders; also, at the climacteric period, mental disorders are liable to occur in some women, it being found that 4 per cent. of insanity in women is due to the menopause. Puerperal insanity is responsible for from 10 to 12 per cent. of all cases of insanity in women. A typical case is now under treatment at the Upper Peninsula Hospital and is an illustration of what effect neglect will have on a woman during the child-bearing period. She lived sixteen miles from a physician and when children were born, which occurred often, she had neither medical care nor proper attention. Her health gave way, delusions of persecution appeared and she is now hopelessly insane." The Doctor then went into a consideration of the subject, "Is menstruation influenced by insanity, or is insanity influenced by menstruation?" and said: "Observations by Skene show that the menstrual function is markedly disarranged in insane women. In the Upper Peninsula Hospital the same was found to be true. The greatly impaired physical condition which usually obtains in the insane may wholly or partly account for this derangement. My experience does not bear out the opinion of Dr. Skene that where menstruation is regular the insanity is of a mild form. In regard to syphilis as a cause of insanity, paretic dements supply 12 per cent. of the insane in our institutions, and about 75 per cent. of them are of syphilitic origin. Dr. Mott, pathologist to the London County hospitals for the insane, as a result of extensive experiments during the past year, states that the

[2] Occidental Medical Times, November, 1896. The Medical News, New York, July 3, 1897. Journal of the American Medical Association, July 31, 1897. Deutsche Med. Wochenschrift, May, 1897.

virus which is responsible for locomotor ataxia will also produce dementia, but there need not necessarily be specific lesions."

HEALTH REPORT for the week ending November 27: Deaths 71, of which 23 were children under 5 years of age; births, male 45, female 44; 20 cases of diphtheria, 58 of scarlet fever; deaths from diphtheria 2, from scarlet fever 1.

Washington.

REPORT OF THE HEALTH OFFICER.—The report of Health Officer Woodward for the week ended November 20, shows the total number of deaths to have been 142, of which 76 were white and 66 colored. The number of births, white 31, colored 20.

WOMAN'S CLINIC.—At the annual meeting of the Woman's Clinic recently held Drs. D. S. Lamb and Robert Reyburn were elected vice-presidents. Members of the attending staff, Drs. Ida J. Heiberger, Julia E. Smith, Nancy D. Richards, Phebe R. Norris, Sophie A. Jung, Jessie Keppalar, Ada R. Thomas, Adeline E. Portman, Susan J. Squires and May D. Baker. Consulting staff, Drs. J. H. Bryan, S. M. Burnett, H. L. E. Johnson, Mary Parsons, H. C. Yarrow, D. W. Prentiss, and Robert Reyburn. Superintendent of hospital, Dr. Ida J. Heiberger.

AT THE RECENT MEETING of the attending staff of the Central Dispensary and Emergency Hospital the following report for the month of October was made: Number of new cases 11,000, visits 3,364, operations 200, deaths 3, postmortems 1, ambulance calls 47, ward cases 30, prescriptions 3,464. The Executive Committee of the Board of Directors adopted the recent recommendations of the Medical Association of the District of Columbia with respect to poor and emergency patients.

MEDICAL SOCIETY.—At the recent meetings of the medical society, Dr. Bishop read a paper on "Neurasthenia." Dr. Richardson reported cases of intubation with remarks on antitoxin. Dr. Eliot reported a case of hysteric dysphagia with the specimen, and Dr. Lamb, cerebral hemorrhage and cancer of the ovary; filaria in heart of dog, specimens with history.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—At the 270th meeting of the Society, held at the residence of Dr. S. S. Adams, Dr. T. J. Winter read a very valuable paper on "Criminal Abortion." The subject was discussed by every member present and proved to be one of the most interesting meetings the Society has held for a long time.

THE DAISY-CHAIN HOSPITAL GUILD, which has for its object the erection of a hospital for contagious diseases, has donated to the general fund $11,300.

A Bill to Regulate Expert Testimony in the Courts of the District of Columbia.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

SECTION 1.—That in courts of the United States in the District of Columbia no opinion or expert evidence shall be admissible except as hereinafter provided.

SEC 2.—That in all cases it shall be the duty of the trial judge, subject to review by the appellate court, to decide whether the skill of any person, in the matter in which evidence of his opinion is offered, is sufficient to entitle him to be considered as an expert.

SEC. 3.—That in any civil action, upon a showing by either party, that the testimony of an expert is necessary for an intelligent understanding of a question in issue, or for the understanding of any evidence relevant to the issue, the court shall name some person or persons, not to exceed three in number, of special skill as to the matter in question, who shall be examined by the court, subject to cross-examination by counsel, upon the matters of special skill or knowledge relating to or growing out of matters in controversy. The cost of such expert testimony to be taxed against the party requesting the same. Provided, that nothing herein contained shall be construed to deprive any party of the right of exception to the ruling of the court on the sufficiency of the showing calling for expert testimony, or as to the person of the expert designated.

SEC. 4.—That in criminal proceedings, except in cases involving the sanity of any defendant, whenever in the opinion of the court the ends of justice demand, the court may on its own motion, or upon a proper showing of either party, appoint or designate such person or persons as by reason of their special skill may be qualified, to give testimony upon such matters as may be involved in the case on trial. The cost of such testimony to be borne by the government. Provided, that nothing herein contained shall be construed to deprive any defendant of the right of exception to the ruling of the court on the sufficiency of the showing calling for expert testimony, or as to the person of the expert designated.

SEC. 5.—That in all criminal cases involving the sanity of any defendant, the court shall appoint a commission, consisting of three physicians skilled in the treatment of mental disorders, one of whom shall be chosen from persons nominated by the government, one from persons nominated by the defendant, and the third to be selected at large by the court; in event of either the government or the defendant, or both, failing to make such nominations, the court may appoint without such nomination the expert or experts to which either or both may be entitled; said commission shall make such investigation as the court may direct and shall submit to the court a finding, to be signed by the majority, which said finding shall be final and not subject to exception or appeal; said finding to be submitted to the jury to receive the same weight as other evidence. Provided, that nothing herein contained shall be construed to deprive any defendant of the right of exception to the ruling of the court on the sufficiency of the showing calling for expert testimony, or as to the person of the expert designated.

CHANGE OF ADDRESS.

Arnold, E. T. F., from Newport, R. I., to Madison Avenue Hotel, New York, N. Y.
Allport, Frank, from Minneapolis, Minn., to 92 State St., Chicago.
Bridgman, G. H., from Elizabeth, N. J., to La Pas, Bolivia, South America.
Chamberlin, W. A., from St. Charles, to Rochester, Minn.
Demaree, T. E., from Claytonville to Roseville, Ill.
Eagleton, S. P., from Philadelphia, Pa., to Ocola, Fla.
Ehret, G. A., from 38 Public Sq. to 89 Euclid Ave., Cleveland, Ohio.
Earll, R. W., from Columbus to 106 17th, Milwaukee, Wis.
Foreman, J. M., from St. Louis to Jonesburg, Mo.
Gottheil, W. S., from 37 W. 50th St. to 144 W. 48th St., New York, N. Y.
Gerhard, G. S., from Ardmore, Pa., to Hot Springs, Arizona.
Jones, D. I., from Hampton to Palmetto, Fla.
Jackman, F. O., from Mt. Pleasant, Iowa, to Bloomington, Ill.
Merrill, R. M., from St. Paul to Mankato, Minn.
Mayer, D., from Charleston, W. Va., to Buenos Ayres, South America.
Nolan, E. C., from 6060 State St., Chicago, to Rockwell City, Iowa.
Rowland, P. W., from Coffeeville to Oxford, Miss.
Renn, T. H., from 1240 Milwaukee Ave. to 227 Townsend St., Chicago.
Stow, Bond, from Glenwood Springs, Colo., to Evanston, Ill.
Sheffield, H. B., from 11th Ave. and 150th St., to 691 Prospect Ave., New York, N. Y.
Toron, M., from 725 E. Belmont Ave. to 637 Larrabee St., Chicago.
Todd, F. W., from Occidental Hotel to Capitola, San Francisco, Cal.

LETTERS RECEIVED.

Ashmead, A. S., New York, N. Y.; Armour & Co., Chicago.
Brashear, B. B., Cleveland, Ohio; Blanke, C. F., Tea & Coffee Co., St. Louis, Mo.; Blech, Gustavus, Detroit, Mich.; Burtenshaw, James H., New York, N. Y.
Cossey, Wm., Keokuk Falls, O. T.; Conley, E. V., Trenton, Ohio; Caldwell, W. S., Vienna, Austria; Chadbourne, T. L., Columbus, Ohio; Clarke, Augustus P., Cambridge, Mass.; Coleman, W. F., Chicago; Chase, H. A., Ferron, Utah; Covey, C. E., Benton Harbor, Mich.; Crawford, S. K., Chicago; Consumers' Company, Chicago.
Dale, J. Y., Lemont, Pa.; Delaney, W. E., State Run, Pa.; Doty, A. H., New York, N. Y.; Dickerson, L. D., McComb City, Miss.; Douglas, Richard, Nashville, Tenn.; DeCourcy, J. O., St. Libory, Ill.
Egan, J. A., Springfield, Ill.; Elliott, A. R., New York, N. Y.
Foster, Eugene, Augusta, Ga.; Fite, C. C., New York, N. Y.; Frink, Phoebe D. (Miss), Norwich, N. Y.; Franz, Adolph, South Hadley Falls, Mass; Fleming, J. L. Trezevant, Tenn.; French, George M., Malden, Mass.
Gihon, A. L., New York, N. Y.; Gundrum, F., Sacramento, Cal.; Graham, John W., Denver, Colo.
Hagestead, Francis, Salt Lake City, Utah; Hill, R. J., Minneapolis, Minn.; Holt, E. E., Portland, Maine; Hare, H. A., Philadelphia, Pa.; Hamilton, E. E., Wichita, Kan.; Hall, Clayton T., Mason, Ohio; Horlbeck, H. B., Charleston, S. C.; Hummel, A. L., Advertising Agency (2), New York, N. Y.
Judy, C. S., Miamisburg, Ohio; Johnston, E. D., Mahomet, Ill.; Jackson, J. A., Dansville, N. F.; Jackman, F. O., Bloomington, Ill.
Knopf, S. A., New York, N. Y.; Kilber, C. B., Corry, Pa.; Krogness, C. George, Chicago.
Larned, E. R., Joliet, Ill.; Lahn, C. F., Cadott, Wis.
Montgomery, E. E., Philadelphia, Pa.; McWilliams, A. R., Blue Mountain, Miss.; Monette, George M. (2), New Orleans, La.; Milbury, Frank S., Brooklyn, N. Y.; McLain, A. M., Irwin, Pa.; Medical Review of Reviews, New York, N. Y.; Medical Echo Publishing Co., St. Louis, Mo. Norwich Pharmacal Co., Norwich, N. Y.
Patton, W. D., Paducah, Texas; Plant System, The, Chicago; Patterson, M. F. (2), Des Moines, Iowa; Price, A. E., Chicago; Poole, W. H., Detroit, Mich.
Rodman, W. L., Philadelphia, Pa.; Reed, R. J., Wheeling, W. Va.
Scheinkman, Dr. B., New York, N. Y.; Simons, T. Greene, Charleston, S. C.; Savage, G. C., Nashville, Tenn.; Sweet, C. L., Boise, Idaho; Salmon, R. H., Farmer's Branch, Texas; Saunders, W. B. (2), Philadelphia. Thomas, C. P., Spokane, Wash.; Traunweiser, L., Merchantville, N. J. Van Houten & Ten Broeck, New York, N. Y.
Wilson, M. C., Lafayette, Ind.; Weis, E. W., Ottawa, Ill.; Wallace, J. T., Oakesdale, Wash.; Woodward, W. C., Washington, D. C.; Werner, O. E., Rib Lake, Wis.; Whaley, E. M., Columbia, S. C.; Whitmore, B. T., New York, N. Y.

THE PUBLIC SERVICE.

Army Changes. Official List of Changes in the Stations and duties of officers serving in the Medical Department, U. S. Army, from November 20 to 26, 1897.

Capt. Isaac P. Ware, Asst. Surgeon, is relieved from duty at Ft. Grant, Ariz., to take effect upon the expiration of his present leave of absence, and ordered to Benicia Bks., Cal., for duty.

Capt. Merritte W. Ireland, Asst. Surgeon, is relieved from duty at Benicia Bks., Cal., to take effect upon the arrival at that post of Capt. Ware, and ordered to the Presidio of San Francisco, Cal., for duty.

PROMOTIONS.

Major Peter J. A. Cleary, Surgeon, to be Deputy Surgeon General with rank of Lieut. Colonel, Nov. 15, 1897, vice Waters, retired.

Capt. Charles Richard, Asst. Surgeon, to be Surgeon with the rank of Major, Nov. 15, 1897.

First Lieut. Paul F. Straub, Asst. Surgeon, to be Asst. Surgeon with the rank of Captain, Nov. 4, 1897, after five years' service.

RETIREMENT.

Lieut.-Col. William E. Waters, Deputy Surgeon-General, Nov. 15, 1897.